

This material is presented solely for non-commercial educational/research purposes.

CHAPTER IV

THE EVIDENCE OF LANGUAGE

I. LANGUAGE AND HISTORY

WHILE it is difficult to establish a close relationship between language form and the racial or cultural characteristics of its speakers, an intimate relationship does exist between culture and language content.¹ The study of language content needs no special justification, since the written records of antiquity are our most valuable source of information concerning the peoples and civilizations which form the object of historical investigation. But language as a formal structure, like the tools and institutions of a society, represents a kind of transmitted organism and as such falls into the category of data which can be ordered in typologically related sequences. Thus, for the historian, who is interested primarily in tracing interacting continuities, the study of the history and development of a language, apart from its use as a vehicle for oral and written traditions, provides useful and sometimes unique evidence of otherwise undiscernible ethnic and cultural affiliations.²

LANGUAGE CHANGE

The evolution of a language through time is most conveniently described in terms of two distinct but related features: function and form. Limiting ourselves for the moment to spoken language, we may define the primary function of language as communication. It is virtually axiomatic that a language, in order to serve the communication needs of a given community effectively, must keep pace with cultural changes within that community. That one is static implies that the other is also static, a generally unlikely situation. The ever-changing communication needs of a community will thus be reflected in its language, and mainly in lexical content rather than in form.³ It is more or less irrelevant whether such changes are internal (evolutionary) or caused by some impetus from outside the community in question.

The changes which take place within the form of a language are of a very different sort and are to a great extent self-generated. The structure of a language may be described as a complex inter-

¹ §1, 13, 207 ff.

² §1, 15.

³ §1, 14, 89 ff.

locking set of systems, the analysis of which may be approached at several levels. Although traditional divisions into phonology, morphology, and syntax are no longer recognized as adequate, this tripartite breakdown is still at the basis of the more elaborate modern analyses. But emphasis is placed not only on descriptions of the various isolatable entities that make up a language, but also on their systemic identification and function, as well as on the more complex relationships that exist among the various subsystems.¹ Regardless, however, of the technical level of synchronic description, linguistic change may be defined in more general terms for our present purpose.

Within a given linguistic community the complex nature of language makes it highly improbable that any two speakers use precisely the same form of the language. This results from imprecision arising from imperfect transmission and memory and from slight differences in the connotations of words and structures, a natural consequence of individual experience. To say that a community is linguistically homogeneous is to rise above this idiolect (or individual language) difference and to recognize a composite norm to which all speakers conform within accepted degrees of tolerance. Change in the form of a language is easily understood within this context: there is a precarious balance between the centrifugal force of idiolect deviation (individual 'error') from the norm and the centripetal force arising from the need to conform for effective communication. Thus, most deviations are cancelled out by conformist correction, but those which are accepted and imitated for one reason or another may gradually bring about a permanent change in the language.

Fortunately, linguistic change is not a random process. While changes are more or less independent of cultural influence, either internal or external, they are limited and conditioned by the structural patterns of the language itself.² Even more generally, linguistic change is amenable to classification, regardless of the language involved, and from the vast amount of material already studied there has emerged a set of principles sufficiently coherent to provide a foundation for an empirical science such as historical linguistics.³

LANGUAGE RELATIONSHIPS

There are four ideal situations which may be represented as models illustrating the types and degrees of relationships existing among languages of a given family. It must be remembered, however,

¹ §1, 5, 2.

² §1, 9.

³ §1, 5, 365 ff.; §1, 2, 346 ff.; §1, 8.

that actual historical situations are usually much more complicated than any simple model and can be reconstructed only by any and all combinations and repetitions of these basic concepts.

First there is the simple *linear* relationship, in which a linguistically homogeneous community remains isolated and coherent over a span of time long enough for significant changes to occur in the language. The languages of the earlier and later periods are said to be linearly related.

Secondly, there is the ideal situation of *divergence in isolation*. If a language community splits into two or more groups which are subsequently and immediately isolated from one another, the language of each group will continue to evolve. But because there is no fixed direction for linguistic change, these languages will gradually diverge from one another in both form and content, until, after a suitable time, they will have become quite distinct. Some parallel development may occur as the result of inherited structural features, but this will prove negligible in the long run.

The *dialect continuum*,¹ our third model, begins with the same relatively small linguistically homogeneous community, but which, in the course of time, because of population growth or some other non-linguistic factor, spreads over a geographical area so great that the stabilizing effect of the core community is no longer strong enough to exert corrective conformity on the dialects of the outlying regions. In such a situation linguistic sub-communities are formed, each of its own norm. As long as there is some degree of linguistic coherence throughout the area and there is at least some mutual influence between contiguous sub-communities, we may describe the total as a dialect continuum. It is well to note here that there is no accepted definition of a dialect as opposed to a new language; there is no absolute, measurable differential by which a dialect deviating from some other one in the continuum is automatically labelled a different language. Although we have described this model in terms of geographical spread, it is equally applicable to dialect differentiation among the various strata of a given society or to the divergences that arise between spoken and written forms of a language which continue to influence one another.

The fourth model cannot be defined so precisely as the foregoing. A language community is often subjected to *interference* in a wide variety of ways.² A model situation in language can be represented at best only as an indefinite variable; the nature and degree of interference is determined by the extent of contact,

¹ §1, 5, 471 ff.; §1, 2, 321 ff.

² §1, 16.

ranging from the most casual cultural interchange to actual bilingualism. Historically, these may represent the contacts between an indigenous group and an immigrant group, between a subject people and its conquerors, or even the mutual interference between two dialects (geographical or social) of a single community. It is obvious that each of the preceding models is capable of being disturbed by the phenomenon of interference. If the two languages brought into contact are structurally distinct, the task of sorting out intrusive elements may not be too difficult. But when there is mutual contamination between two or more closely related languages, the resulting situation may defy analysis. Most language interference is visible in the lexicon, while, in general, widespread bilingualism would appear to be necessary to effect changes in structure. The term *substratum* is often applied to the special instance of this model in which an indigenous population exerts an influence on the language of an immigrating group.

METHODS OF HISTORICAL LINGUISTICS

The science of comparative linguistics has its origin in the last decades of the eighteenth century, when the new knowledge of Sanskrit awakened European scholars to the realization that long-cherished ideas about the perfection and elegance of the classical languages had to be abandoned and that long-held views on the more or less static relationship among languages should be replaced with one based on historical process.¹ The nineteenth century was characterized by vast enthusiasm, a century of search and discovery in both practical and theoretical directions, abetted by parallel interests in the concepts of evolution and naturalism.² The present century has seen the rise of descriptive and structural linguistics with new and important techniques of analysis and presentation, including the increasingly important use of statistical measurement and concomitant employment of the computer.

The comparative method in its simplest application is an attempt to reconstruct a parent language from the data of two or more derived languages.³ The reconstruction proceeds along accepted lines in accordance with (1) the general principles of linguistic development and (2) the basic situations and their compounds, as described in our models. More specifically, reconstruction begins with a thorough study of cognates and recurring correspondences in form, for without the presence of both of these in

¹ §1, 1, 133 ff.

² §1, 12.

³ §1, 2, 297 ff.; §1, 5, 485 ff.; §1, 7, 119 ff.

some degree a genetic relationship among the languages in question would not be suspected in the first place. While absolute limits cannot be established and 'intuition' still plays an important role in preliminary investigations, cognates may be defined as a set of lexical items similar in meaning and form in the various languages involved; the ultimate goal of the linguist is to discover a set of rules or relationships true of these words, which will allow him to generate from a hypothetical parent word all the forms attested in the derived languages. If it were not for recurring correspondences on the phonological and morphological levels, there would have to be as many rules as there are cognates. Such a demonstration would, needless to say, be regarded as a failure, since there must be a significant difference between the number of derived forms and the number of rules necessary for deriving them.

The method known as internal reconstruction is limited both in application and value.¹ Careful examination of a language always reveals certain systemic imbalances, such as sharp limitations or conflicts in the distribution of certain sounds or the presence of small groups of irregular forms as opposed to a dominant group of regular ones. Since it is known from the study of controlled situations that such variations *may* be the result of historical change from a more uniform earlier stage of the language, it is possible to approach any given language from this point of view and to reduce the existing imbalance to a uniform hypothetical progenitor coupled with a set of rules for deriving the subsequent forms. Although internal reconstruction can lead to greater insight into the structure of a given language, the lack of external controls and the absence of theoretical backing detract much from its value as a tool in historical linguistics. There is also the remote possibility that a supposed earlier form so reconstructed may be more readily identified as being related to some other language.

The comparative method itself has serious limitations. These arise from the fact that a certain degree of coherence must exist in the empirical data before the method can be applied. If the divergence is too great, reconstruction is impossible, in spite of obvious genetic relationships deduced from a larger number of cognates and recurring correspondences than chance would allow. This sort of impasse cannot be considered as a condemnation of the comparative method, but it does emphasize the need for other acceptable methods of evaluating historical relationships when the data are too sparse for conventional treatment.

¹ §1, 6; §1, 5, 461 ff.

A recent and different approach to this problem is based on a statistical examination of vocabularies. The method is known generally as lexicostatistics,¹ and in a more specialized form, as glottochronology.² Two basic assumptions are made, neither of which has firm theoretical support: (1) that a diagnostic list can be established, for each item of which a single word can be found in any given language; (2) that the words in such a list will, over a given time, suffer replacement (attrition) at a constant rate. Transferred into mathematical formulae, these two assumptions are now in wide use for determining the degree of relatedness between two languages. While this is not the place to enter into a detailed discussion of this theory, it must be noted that objections have been raised which are so serious as to vitiate the results claimed for this method.³ The first assumption suffers from the naïveté of assuming discrete universals of perception and expression. The second, when reduced to the formulae now in use, does not measure accurately what it claims, since any two languages which diverge from a common parent may well retain a similar proportion of the parent vocabulary, but compared with one another the range of comparable items will depend on which items have been replaced. The time measurement, computed between the two possible extremes (from identical replacement in the two languages to completely different replacements) is too vague to have any real significance. That lexicostatistical measurements may prove of historical value is undeniable, but results claimed by current practitioners cannot be assessed without much more refinement and correction in the method itself.

BORROWING, DIFFUSION, AND INTRUSION

As we have stated, cultural interchanges of even a slight degree may leave their traces on the languages of the affected communities in the form of loanwords or, less commonly, of borrowed grammatical features. The detailed study of loan material serves, therefore, to corroborate the existence of cultural contacts which are indicated by other data and, in those cases where other indications are lacking, to suggest contacts which would otherwise be unknown. Linguistic corroboration of this sort is quite valuable, for example, in the study of the Sumerian and Semitic components of Mesopotamian civilization during the third millennium, where the mutual influence of the languages on one another sheds light on the relevant technical and institutional aspects of the two ethnic

¹ §1, 10.

² §1, 11.

³ §1, 3.

groups.¹ Similar examples may be cited: the mutual influence of Persian and Aramaic during the Achaemenid period and, in the east, later; the large admixture of Greek in Coptic; the diffusion of Hurrian elements in certain phases of Akkadian.

The analysis of personal names has proved to be a powerful tool for identifying various ethnic elements that constitute an otherwise homogeneous population. One of the most striking examples of this is the detection of Indo-Aryans in Syria and Palestine during the Late Bronze Age. Indo-Aryan personal names, reflecting a language closely akin to Vedic Sanskrit, show up clearly in the fifteenth-century documents from Alalakh IV and are attested in the south for approximately the same period in the Taanach Letters. The continued presence of these Indo-Europeans is well documented in the Amarna Letters of the fourteenth century, where they actually make up a majority of the non-Semitic rulers mentioned. Other examples of similar ethnographic information provided by onomastic analysis include the large number of Semitic (mostly Amorite and Canaanite) names found in Egyptian records from the Middle Kingdom and later, and the Aramaic names in late Assyrian and Babylonian sources.

We are often dependent on personal and place names as our only source for a language. An excellent example is afforded by Amorite, a north-west Semitic language of the second millennium. All of our information about Amorite, including proof of its existence, comes from the analysis of personal names in cuneiform sources from Mesopotamia (especially Mari) and Syria-Palestine, augmented by a considerable number from Egyptian documents. These names supply many details of Amorite phonology, morphology, and vocabulary, all of vital importance for reconstructing the linguistic and historical picture in this complex area of investigation. Similar indirect analysis has been used with the Canaanite Amarna Letters. In many of these letters the deviation from the Middle Babylonian norm in which they were ostensibly written furnishes us with our most valuable source for the local Canaanite dialects of the period.

THE MAJOR LANGUAGE FAMILIES

In sections II and III of the present chapter we shall present a detailed survey of the two large and well-attested language families whose members play a dominant role in the early history of

¹ See below, pp. 147 ff.

western civilization: Hamito-Semitic (or Afro-Asian) and Indo-European (or Indo-Hittite). Section IV will include a discussion of some important isolated (i.e. non-affiliated) languages of early history, such as Sumerian, Hurrian, and Elamite. The other recognized major families of Eurasia and Africa are relatively unimportant at this stage since their earliest attestations are mostly recent and their history in the pre-Christian period is conjectural. But because relationships between these families and the languages mentioned in this work have been suggested, but never convincingly demonstrated, we list them below for purposes of general orientation and reference.¹

(a) *Eurasian*

Finno-Ugrian, in north-eastern Europe and north-western Asia, includes Finnish, Hungarian, Cheremissian, etc., and more remotely Samoyed.

Caucasian, in the area of the Caucasus, is used of languages which are not Indo-European or Turkic in origin, and whose ancestral speakers found refuge there at different times in the past. Divided generally into three main ethno-geographical groups—south-west Caucasian (including especially Georgian and Mingrelian), north-west Caucasian (including Circassian), north-east Caucasian (including Chechen and Avar)—there is still no accepted comparative linguistic classification.² Georgian was reduced to writing in the fifth century A.D.

Altaic, a name of doubtful coherence, which always includes the Turkic languages, spoken over a vast area extending from the region of the upper Irtysh River, west of Outer Mongolia to European Turkey. The once popular grouping of Turkish with Mongolian and Manchurian has become more and more doubtful, in view of the differences in structure, which suggest that the common elements of vocabulary are the result of long periods of close political and cultural ties.³ There is no solid evidence for considering the ancestral Turks as Mongoloid. The Old Turkish Orkhon inscriptions go back to the early eighth century A.D.

(b) *Asian*

Sino-Tibetan, including the Tibeto-Burman and the Chinese groups.

Mongolian, Manchu and others (see above, on Altaic).

¹ §1, 4.

² The speculations of N. Marr and his followers were politically oriented.

³ §IV, 4; §5; 27.

Japanese and Korean, each an isolated language.

Kadai, limited to south-east Asia, includes Thai-Laotian and others.

Dravidian, now limited chiefly to southern India (Tamil, Telugu, etc.) and Balūchistān (Brahui). The Dravidians almost certainly occupied much of northern India and especially the Indus Valley, before their conquest by the Indo-Aryans about the eighteenth century B.C.¹

Malayo-Polynesian, now covering a vast area, from Madagascar to the islands of the eastern Pacific.

The preceding list includes only major families of languages in Eurasia, northern Africa and the Pacific. It does not include the so-called Chari-Nile family (Nubian, Sudanic, etc.), whose relationships are often obscure, nor the Bantu and other true Negro families and groups of languages, nor the Khoisan (Hottentot and its congeners). It also excludes the Australian and Papuan languages of New Guinea and the Melanesian islands, as well as all the many apparently unrelated linguistic families of the American Indians. Of course, many isolated and as yet unclassified languages are known in all the areas concerned.

It is now becoming more and more probable that spoken languages were already well developed at least 100,000 years ago—probably as early as the functionally superb stone tools fashioned by the craftsmen of Lower Palaeolithic (Abbevillian, etc.) in Western Europe.² After all, languages are as much tools of communication as artefacts are tools for making articles of wood, bone and stone, used for a large variety of purposes by primitive man. Even without this obvious parallel, the fact that such different animals as bees and dolphins are now known to have most elaborate communication patterns should give us pause. Besides, the pre-glacial Australopithecines of East and South Africa seem to have been far ahead of modern chimpanzees as adapters and even as inventors of tools—and we are rapidly learning not to despise the cleverness of the latter.

Not only is human language exceedingly ancient, but the mobility of primitive languages can scarcely be exaggerated. An

¹ See below, pp. 154 f.

² See the fully documented presentation of the present chronological situation, resulting from the Urey-Emiliani correlation, and a defence of the latter against the impossibly high chronology of Curtis and Evernden in *The World History of the Jewish People*, 1 (ed. E. A. Speiser, Tel-Aviv, 1964), 67 ff. and 353 ff. The probable appearance of language is dated there (p. 67) '150,000–200,000 years ago—perhaps considerably more'.

excellent illustration is furnished by the peopling of America, which began not less than 20,000 years ago and brought groups of many racial origins and radically divergent linguistic stocks across seas and oceans to occupy every habitable part of the hemisphere. Just as beginnings are now being made in locating Old World sources of elements in Palaeo-American and more recent cultures, so we may expect that a few, at least, of the presumptive sources of language will also be identified. We must, to be sure, expect that most of the putative Old World cognates have become extinct or have been transformed beyond recognition. As recently as 10,000 years ago such far-ranging families as Afro-Asian and Indo-Hittite may have been severely limited in geographical extension, while now isolated tongues like Basque and south Caucasian may have spread over wide areas. Even structures may change quite rapidly. Though Egyptian and the Semitic languages of Asia share a host of diagnostic phenomena, there are too few common words to make glotto-chronological methods applicable with significant results. Yet Egyptian, as a language of sedentary folk, transformed its basic verbal structure twice between predynastic times (before the late fourth millennium B.C.) and Coptic (about A.D. 300). The consistent extension of the triconsonantal pattern to biconsonantal verbs by developing weak stems, was substantially completed in parent Semitic no later than the fourth millennium in all probability; it was never completed in Old Egyptian and in later times lost ground again because of phonetic decay. On the other hand, in view of the close parallelism between the prefixed conjugations of the other Hamitic languages and the corresponding Semitic patterns, it seems certain that Egyptian once possessed prefixing conjugations, which were lost before the end of predynastic times, at latest. The general shift to verbal forms related in structure to the Egyptian participles, which may themselves have originated in 'gerundive' use of the infinitive, was certainly completed by our oldest inscriptions. In New Egyptian this structure began to yield ground to increasingly wide use of periphrastic clauses and phrases prefixed to a simple verbal form, which ended by giving Coptic a strangely agglutinative appearance. That this structural transformation should have taken place in an inflected language is a warning as to the possibilities of apparently basic change in supposedly crystallized linguistic structures. On the other hand, Classical Arabic about A.D. 500 was in many ways more primitive in structure than Akkadian at the beginning of its career as a sedentary language (not later than c. 2500 B.C.). In short, we must be prepared to

find great mobility, rapid increase or decline in populations, and a high differential rate of change, caused in large part by different social structuring.

II. THE AFRO-ASIAN (HAMITO-SEMITIC) FAMILY

The Hamito-Semitic language family has until recently been rather poorly defined. Already in the last century the study of a number of North African languages had brought to light enough common lexical and grammatical items to suggest a common origin. But the term Hamitic, used to denote this language stock, was unfortunately applied also to various racial and ethnic characteristics, so that as a linguistic term it lost in precision. The languages as a group also have many elements in common with the Semitic languages, originally spoken outside of Africa; the combined designation 'Hamito-Semitic' gained general acceptance in spite of the lack of clear internal classification. Only recently has careful attention been directed toward this problem, the most systematic survey being that of J. H. Greenberg, whom we shall follow here.¹ It must be emphasized, however, that the last word concerning the affiliations of many African languages is far from being said, and the next decade or so will undoubtedly see important modifications.

Five co-ordinated subgroups may be recognized: (1) Semitic, (2) Ancient Egyptian, (3) Berber, (4) Cushitic, and (5) Chadic (Hausa). Only the first two are clearly attested in antiquity, both from the early third millennium onward. The Berber dialects are currently spoken in the vast area extending from the Siwa Oasis westward to the Atlantic and southward to the Niger River.² Whether the language of the so-called Libyan inscriptions, dating from the Roman Period in North Africa, is an early form of Berber or not remains problematical.³ A similar situation prevails with reference to the strongly Egyptianizing Meroitic inscriptions from the long-lived kingdom in Nubia (Cush), centred first at Napata (c. 1000–300 B.C.) and then at Meroe (to c. A.D. 400). The Meroitic language cannot be related confidently to any known family, but is often classified uncritically with Hamito-Semitic.⁴ The ancient forerunners of Cushitic⁵ and Chadic,⁶ both represented by many languages and dialects in present-day north-

¹ §11, 24, 42 ff.

² §11, 6, 38.

³ §11, 6, 47.

⁴ §11, 26.

⁵ §11, 43, 118 ff.

⁶ §11, 47, 153 ff.

east and north-central Africa respectively, are unknown. It should be noted that the present classification of Hamito-Semitic excludes several language groups formerly assigned to it, such as Fulani in West Africa,¹ the Nilo-Hamitic (*sic!*) languages in north-east Africa,² and Hottentot (Khoisan) in the extreme south.³

The language of ancient Egypt, attested from early in the third millennium with the beginnings of hieroglyphic inscriptions during the Early Dynastic Period, is now sufficiently well understood to permit serious study of its genetic relationship with other members of the Afro-Asian family and with the Semitic languages in particular. Although Egyptian is not to be placed within the Semitic family, there are few grammatical features which can be considered alien to that group.⁴ A close genetic relationship is thus indicated and accepted; only on details is there a divergence of scholarly opinion. The total loss in Egyptian, for example, of prefix verbal conjugations, a common feature not only of Semitic but also of Berber and other African members of the Afro-Asian family, points probably to early separation from the parent stock. Then too, much of the ordinary vocabulary of Egyptian finds no convincing cognates in Semitic, and many of the items which have been compared suggest, by the irregularity of their phonetic correspondences, a long and complex prehistory whose details cannot be reconstructed without more evidence than is currently available.⁵

The recognized phases and written forms of Egyptian are as follows:

(1) Old Egyptian, attested in hieroglyphic texts from *c.* 3100–2160 B.C.⁶

(2) Middle Egyptian, a standard literary form evolved from late Old Egyptian and employed not only during the Middle Kingdom (*c.* 2160–1780 B.C.) but in slightly modified forms for monumental purposes down through the first millennium.⁷ It is at the beginning of this period that the hieratic script, a cursive adaptation of hieroglyphic for use on papyrus and ostraca, begins an ever-increasing divergence from its parent form.

(3) Late Egyptian, a second standard form which came into wide use at the end of the Eighteenth Dynasty (*c.* 1370 B.C.) for literary and everyday uses, mainly in hieratic script.⁸ It differs considerably from Middle Egyptian, owing to the incorporation of many new features from the spoken language of the period.

¹ §11, 24, 25 ff.

⁴ §11, 1, 41.

⁷ §11, 20.

² §11, 24, 43 ff.

⁵ §11, 11.

⁸ §11, 16.

³ §11, 24, 66 ff.

⁶ §11, 15.

(4) Demotic, a third standard form, evolved during the first half of the first millennium B.C., distinct in grammar, orthography, and script from the preceding phases of the language.¹

(5) Coptic, the last standard form of the language from the early Christian era, written in a modified Greek alphabet.² The dialectal divisions known from Coptic, i.e. Sahidic, Bohairic, Faiyumic, and Akhmimic (*inter alia*) were of course present to some extent in the older stages of Egyptian, but it is only rarely that these differences show through the highly standardized earlier writings.

Geographical, ethnic, and linguistic criteria are employed simultaneously in most classifications of the Semitic languages, with the result that imprecision, vagueness, and controversy persist.³ But such disputes, largely terminological, are common to the problem of linguistic classification, and since they rely on scholarly consensus, they will probably never be completely resolved. The geographical distribution of the languages in antiquity is a convenient starting-point and will suffice for our purposes.

North-east Semitic is represented by the dialects of Akkadian, attested from the middle of the third millennium to the beginning of the Christian era. Prior to c. 2000 B.C. the evidence is too sparse to support dialectal distinctions; this phase of the language is referred to simply as Old Akkadian. After 2000 B.C. there is an increasingly clear differentiation into Assyrian and Babylonian, in the north and south respectively, and within each of these dialects successive phases such as Old, Middle, and New are established. The following sketch includes the more important of these subdivisions with their approximate dates.

Old Akkadian (c. 2500–2000), in which three periods are recognized: Pre-Sargonic, Sargonic, and Ur III.⁴

Old Babylonian (c. 2000–1500), the classical form of the language, associated primarily with Hammurabi and the First Dynasty of Babylon.⁵

Old Assyrian (c. 2000–1500), the contemporary phase of the northern dialect, best known from texts discovered at the Assyrian merchant colony of Kanesh (Kültepe) in Cappadocia.

Middle Babylonian and Middle Assyrian (both c. 1500–1000).⁶

Literary Babylonian, a standard form of the language having its origins in the Middle Babylonian period but used for a wide variety of literary and technical works down to c. 500 B.C.

Neo-Babylonian refers to the actual spoken language during

¹ § 11, 30.

² § 11, 40, 42.

³ § 11, 32; 3 ff., 46.

⁴ § 11, 22.

⁵ § 11, 45.

⁶ § 11, 5.

the first millennium, with the term Late Babylonian reserved for the latest phases, from about 600 B.C. on.

Neo-Assyrian designates the contemporary dialect in the north down to the fall of Assyria c. 600 B.C.

Akkadian is written in a cuneiform script borrowed from the Sumerians. During most of the second millennium Akkadian was the *lingua franca* of the entire civilized Near East, excepting Egypt. Several important corpora of texts in Akkadian have been recovered from areas outside of or bordering on Assyria and Babylonia proper, such as the Nuzi tablets, showing strong Hurrian influence, the Mari tablets, with Amorite influence,¹ and the Amarna letters, exhibiting strong Canaanite and Hurrian substrata.

Before the turn of the present century the limited number of speech forms known from the north-west Semitic area was small enough for simple classification. Of the two main branches, Canaanite included Biblical Hebrew and a few Hebrew inscriptions, none predating the tenth century, Phoenician, and the poorly attested Moabite; Aramaic constituted the other main branch. The convergent original form of these languages could be projected backward into the then relatively undiscovered second millennium B.C. So far as these languages are concerned, the discoveries of the present century have produced no change in status or classification; to be sure, the number of early inscriptions recovered has in each case increased significantly and the interpretation of this early material has progressed substantially. It is the enormous amount of new data from the second millennium, however, that has complicated the classification of languages in this general area. The recovery of cuneiform tablets at sites from northern Mesopotamia to the Mediterranean, mostly in Akkadian, has provided us with hundreds of different personal names whose components reflect the languages of the local populations during the first half of the millennium. Whatever dialectal differentiation existed is considered minimal and the terms East Canaanite² and Amorite³ have been applied to this material as a whole. From after the middle of the millennium come the Ugaritic texts discovered at Ras Shamra in Syria.⁴ These texts are of two types: (1) epic and religious texts whose composition must certainly be projected back into the first half of the second millennium, and (2) letters and administrative documents whose language must be considered contemporary with the finds them-

¹ §11, 17.

³ §11, 21, 28.

² After T. Bauer, §11, 7.

⁴ §11, 23.

selves, i.e. from the fourteenth and thirteenth centuries. Also to the fourteenth century belongs the extremely important corpus of letters discovered in Egypt at El-Amarna, representing the correspondence between kings of the Eighteenth Dynasty and their representatives and vassal rulers in Syria and Palestine. Although these letters are in Akkadian, the language of the local rulers has so influenced their style and grammar that they provide a valuable source for the local dialects of this period.¹ A corpus of early alphabetic material extending from about the middle of the millennium, or perhaps slightly earlier, supplements the data just described. The most important of these are the Proto-Sinaitic inscriptions (c. 1500), a series of rather crudely inscribed texts discovered at Serābit el-Khādim, an Egyptian turquoise and copper mining site in the Sinai Peninsula.² These texts are important both for the early history of the alphabet and for the linguistic picture in general. The development of the north-west Semitic languages may be sketched briefly as follows:

(1) c. 2000 (and earlier) to c. 1750: A dialect continuum (Amorite) extending from northern Mesopotamia westward into Syria-Palestine. Contemporary data are insufficient for dialect divisions.

(2) c. 1750–1400: There are enough data to justify a general division between Early Canaanite in Syria-Palestine and Amorite to the east. In view of the divergences attested immediately after this period, we may assume that distinctive dialectal differences separated the languages of the northern Canaanite area from the southern. The epic language of Ugarit would belong chiefly to the northern group, though it had become generalized, like Homeric Greek. Some scholars would recognize a closer tie between North Canaanite and Amorite than between North and South Canaanite at this time.

(3) c. 1400–1000. Contemporary data and extrapolations from the later situation support clear dialectal distinctions in the Canaanite area, leading to a clean break by the end of this period between Hebrew and Phoenician.³ The absence of relevant material from areas later inhabited by the Aramaeans hinders us in our attempt to determine with any precision the specific locales in which this branch of north-west Semitic had its origins, but Proto-Aramaic must have reached a recognizable form during or even before this period.⁴

(4) c. 1000 and after. Hebrew,⁵ Moabite, Phoenician,⁶ and

¹ § 11, 31; see *C.A.H.* 11³, ch. xx, sect. 1.

² § 11, 2.

³ § 11, 25.

⁴ See *C.A.H.* 11³, ch. xxxiii, sect. iv.

⁵ § 11, 10.

⁶ § 11, 18.

Aramaic¹ are attested as distinct inscriptional languages. Evidence for minor dialects (e.g. Byblian Phoenician) survives from early in the millennium, but in general standard forms of these languages prevail by the middle of the millennium. The subsequent history of each of these languages is complicated by the persistence of standard written forms fixed during their early phases beside naturally developing and divergent forms, with inevitable mixing of the two. Hebrew has continued in use until today. Phoenician, after the early period of colonization, beginning in the tenth and ninth centuries, split into two types developing concurrently: Phoenician in the homeland proper and Punic in the colonial cities, especially Carthage. Both languages died out early in the Christian era after the third century A.D. Aramaic, well attested through most of the millennium, survived after the Christian era in two dialectally distinct groups: Western Aramaic, including Nabataean,² Palmyrene,³ the various dialects of Jewish Palestinian Aramaic,⁴ Samaritan Aramaic, Christian Palestinian Aramaic,⁵ and scattered modern survivals; Eastern Aramaic, including Syriac,⁶ Babylonian (Talmudic) Aramaic, Mandaean,⁷ and a rather extensive modern form known as 'Assyrian'.

South-west Semitic comprises North Arabic and its antecedents. North Arabic appears as a literary language in pre-Islamic poetry, as preserved by a later tradition, and in the Quran. These works served as a basis for the standard literary Arabic of the medieval period, systematized by several generations of grammarians and altered by various dialectal influences. The spread of Islam carried the Arabic language to the borders of China in the east and to the Atlantic in the west. The present-day extent is somewhat less, but attested in many dialects in a zone ranging across northern Africa, dipping deeply into the Sudan, spanning the Arabian peninsula, most of Syria and Palestine, stretching across Mesopotamia and into mainland Asia. The antecedents of Quranic and classical Arabic are obscure; it would appear to be based on a poetic *koinē* widely used in the immediately preceding pre-Islamic period.⁸ Also classified as North Arabic are the more ancient inscriptions known as Thamudic, Lihyanite, and Safaitic, dating from about 500 B.C. to 300 A.D.⁹

South-east Semitic (or, according to others, a branch of south-west Semitic)¹⁰ is well attested in an ancient form by the inscrip-

¹ §11, 8, 19, 4.

⁴ §11, 14.

⁷ §11, 34.

¹⁰ §11, 32, 13; §11, 29.

² §11, 13.

⁵ §11, 39.

⁸ §11, 37.

³ §11, 12.

⁶ §11, 33.

⁹ §11, 48.

tions originating in the kingdoms of South Arabia from the eighth century B.C. to the sixth A.D. Recognized dialects are Sabaeen, Minaean, Qatabanian, and Ḥadramī.¹ Modern descendants of this same family survive in Mehri and Shahrī, spoken along the southern coast, and in Soqōṭrī, spoken on the off-shore island Soqōṭra. The major survivors of this important branch of Semitic come from Ethiopia, however, where South Arabian merchant colonies were founded no later than the fifth century B.C.² A large Christian literature is extant in Ge'ez (classical Ethiopic), following the Christianization of the country in the fourth century. Modern spoken languages include Amharic, the official language, Tigré, Tigrīña, Harari, Gafat, Argobba, and the dialect group known as Guragé.

III. THE INDO-HITTITE FAMILY

It is now a century and a half since Franz Bopp published his first treatise on the relationship of Sanskrit to Greek, Latin, Germanic and Persian (1816). Ever since, there has been a sustained scholarly attack on Indo-European problems, thanks to which the state of our knowledge has been enlarged and deepened to an extent nowhere even remotely approached in other areas of linguistic research, although the standard treatises from the early part of this century have seldom been replaced by publications of equal authority.³ The discovery of a set of proto-Indo-European 'laryngeal' sounds and the widening of horizons resulting from the decipherment of the Anatolian languages and Tocharian have made it possible to continue research along the old lines, while descriptive and structural approaches to comparative linguistics are diverting scholarly attention to completely new lines of investigation. As a model of rigorous analysis Indo-European remains unique in the general area of linguistics and seems likely to hold this place for some time to come.

Indo-European has been divided into two main groups—a European and a Eurasian. The former includes chiefly Greek, Italic, Germanic and Celtic; the latter comprises Balto-Slavic (Lithuanian, etc., and the Slavonic languages), Indic (Sanskrit) and Iranian (Avestan and Old Persian, etc.). We omit Albanian

¹ §11, 9.

² §11, 44.

³ The second edition of K. Brugmann's *Grundriss der vergleichenden Grammatik der indogermanischen Sprachen* (1897–1916) still remains basic, though a great deal of valuable work has since been devoted to individual languages and linguistic phases.

and Armenian at this point since they are not yet clearly located in the Indo-European or the larger Indo-Hittite group; there are only some four hundred words in each of them which belong to the original language, all others being loanwords. As we shall see below, the Armenian language appears to be a late offshoot of Hittite. The first four languages mentioned above are conventionally called *centum* languages because they still preserve the old velar ('palatal') stops without changing them to sibilants. It is still uncertain whether the 'Tocharian' languages, discovered at Turfan in Central Asia early in this century, are really *centum* or are simply unpalatalized Indo-Hittite; Tocharian has points in common with Hittite. In the Balto-Slavic, Indo-Aryan and Iranian groups palatalization is carried through with fair consistency. There has been much debate as to the original home of the Indo-Europeans, but this matter does not concern us here.¹

The southward irruption of the Greek-speaking peoples into mainland Greece took place no later than the eighteenth century B.C., and may perhaps have fallen a century or so earlier; the Indo-Aryan irruption into India can now also be dated no later than the late eighteenth century B.C., and the Iranians migrated into Iran some centuries later. The question when the main diffusion eastward and westward took place is at present unanswerable. It should be said, however, that there is no solid basis for the hypothesis of long-range weather cycles such as the 800-year cycle which is defended by some historians of climate today. For instance, it is thought that there was one prolonged period of drought to be dated roughly between the twenty-first and eighteenth centuries B.C. This is quite superfluous as an explanation for the movement of peoples from Europe southward. In the first place, not only do we lack evidence for any such hypothesis in the Near and Middle East, but the European evidence is quite inadequate for the structure built upon it. The ideas of Caetani and Ellsworth Huntington have long since been disproved and there is no good reason to revive them in a new form today. In the second place, any succession of five to ten dry years may bring about very serious famine conditions and may start mass movements on the part of hungry peoples. From prehistoric times on there was a strong tendency to increase population by improving the production of food, both through use of new tools and methods of cultivation, and through the spread of important food plants and animals. As a result peoples living in marginal areas became more vulnerable to famine conditions. It is also erroneous to say

¹ See *C.A.H.* 1³, ch. xxvii.

that during the third millennium the Indo-Europeans were nomad horsemen—or in Central Asia nomad cameleers.¹ Both assumptions are based on false *a priori* hypotheses and misdated stratigraphic finds. Even today the chronology of central Europe and even more of central Asia in the Neolithic, Early and Middle Bronze periods is almost hopelessly confused. Until archaeological chronology has been clarified, and the exact level in stratified sites, at which remains of domesticated horses and camels are found, has been fixed, it is idle to speculate about equine nomads as bearers of early Indo-European migratory movements.

We have, in fact, increasingly strong evidence for a long period of slow Indo-European development, as well as for the existence of groups which have long since disappeared, such as the Anatolian group of Indo-European languages.² The recovery of this linguistic group is the direct result of the decipherment of 'cuneiform' Hittite in 1915. To it belong most of the languages of Asia Minor during the second millennium B.C., as well as their congeners of the second and first millennia. It is now quite certain that the Anatolian group of languages was closely related to Indo-European.³ There are some differences which point to a considerable age for the separation between them. For example, among early Anatolian peoples with Hittite affinities there is no trace of *Ablaut* (shift of vowels in the principal parts of the verb and noun) in the verb, though we do have some *Ablaut* in the noun (for example, *watar*, 'water', genitive *wetenas*).

It is often supposed that the Indo-Hittites migrated into Asia Minor at the beginning of the second millennium shortly before their first appearance in cuneiform and other texts. This is, however, an extremely doubtful assumption. For we find Hittite sharply defined and quite different from Indo-European by the sixteenth century B.C.⁴ and perhaps considerably earlier (as the official language of the Old Hittite empire). In fact there is clear evidence from proper names, both names of places and names of persons, that these differences went back well before the earliest records of the Assyrian merchant colonies in Cappadocia about

¹ It is now certain that large-scale horseback-riding did not come into use until late in the second millennium, and that chariots with spoked wheels remained unknown until well after the beginning of the second millennium. After this type of chariot had been invented, it spread over the Near and Middle East like wildfire because of its military and sporting significance: contrast § III, 16, 12, n. 2. On the chronology of the domestication of the Bactrian (two-humped) camel see Reinhard Walz in *Z.D.M.G.* 104 (1954), 45 ff. ² § III, 16.

³ § III, 16, 47 ff.; § III, 7; § III, 25. The literature is now very extensive.

⁴ Or seventeenth, following the usual chronology.

the nineteenth century B.C.—though these undoubtedly went back to the late third millennium for their foundation. In these records we already find Luwian and Hittite names at the beginning of the second millennium B.C.¹

In recent years the work of many scholars has demonstrated beyond any possible doubt that the languages of south-western and southern Asia Minor in the Iron Age, including the dominant tongues used in Lydia, Caria, Lycia, Pamphylia, Pisidia, Isauria, Lycaonia and Cilicia, were offshoots of the older Anatolian languages of the second millennium.² Moreover, we find in the Hittite inscriptions clear evidence that the Luwian names of that time were already specifically Lycian and Cilician in type. A recent discovery has added to our direct information, proving that a Lycian held a post at the court of the prince of Byblos about 1800 B.C.³ The name, *Kuk(k)un(is)* and national origin are both given in a mortuary stele mentioning the name of the prince of Byblos in question, Abi-shemu. Since the same name appears in Lycia in the Hittite period (fourteenth century B.C.) and is also found in the Lycian inscriptions of the sixth to fourth centuries B.C., we have a particularly clear example of the existence of daughter dialects of Luwian at about the time when the Luwians are supposed by some scholars to have entered Asia Minor. It has long since been pointed out that the suffixed elements *-nthos* and *-ssos*, with variants, appear all over Greece and the Aegean islands as well as throughout south-western, southern and south-eastern Anatolia. As long ago shown by Blegen, these place names are frequently associated with Early Bronze archaeological deposits, indicating clearly that by far the easiest hypothesis in the circumstances is to recognize that the Luwian occupation of southern Anatolia probably went back to the middle of the third millennium B.C. or even earlier.⁴ We know now that Lydian was closer in some respects to Hittite than to Luwian.⁵ Since Lydia was located at the end of the central highland of Asia Minor, the Lydians participated in Aegean cultures as well as in the plateau civilization which the Hittites led. Similarly we know today that hieroglyphic Hittite was an offshoot of Luwian used in the inscriptions of southern and south-eastern Asia Minor as well as northern Syria between the twelfth and the seventh centuries B.C.⁶

¹ § III, 12; § III, 13, 73.

² In addition to previous references note especially G. Neumann, *Untersuchungen zum Weiterleben hethitischen und luwischen Sprachgutes in hellenistischer und römischer Zeit*. Wiesbaden, 1961.

³ § III, 2, 33 f., corrected in § III, 3, 46 f.

⁴ § III, 6.

⁵ § III, 7.

⁶ § III, 13, 18, 22.

We may, therefore, set up the following probable relative chronology. There were three cognate tongues called respectively *Nasi-* (Hittite), *Lū(w)i-* (commonly called Luwian), and *Pala-* (the native home of which in Asia Minor is not yet known).¹ The speakers of these tongues had almost certainly moved into Asia Minor from the north not later than the middle centuries of the third millennium and had been pushed southward by subsequent invaders of quite unknown origin, perhaps including the so-called Proto-Hittites, called *Hatti* by the 'Hittites'. The Proto-Hittites certainly founded the ethno-political aggregation in which their language was ultimately displaced by cuneiform Hittite (*Nasi-*). In other words the former may have occupied Cappadocia after the latter and have established a group of city-states which were finally absorbed by the native *Nasi*, much as the Franks occupied and founded France but were finally absorbed by the older population and language. Proto-Hittite became the sacred language of the later 'Hittites', but does not seem to have been well known to them and is still very obscure; though we do know, for example, that it stressed prefixes but also possessed suffixes. Since most of the 'Hittite' royal names in later Cappadocia belong to this stratum, it is virtually certain that it had established itself in Asia Minor at a comparatively early date, probably no later than the twenty-fourth century B.C., which is about the date of the so-called royal tombs of Alaca. But the mere presence of a dominant Proto-Hittite stratum in Cappadocia suggests, as we have seen, that the Hittite-Luwian stratum had entered earlier and had been pressed farther to the south and east by the new invaders.

With the Phrygian occupation about 1200 B.C. (though the movement may, of course, have begun centuries earlier) we have the first true Indo-European language in Anatolia (outside of previous Greek occupation of parts of the western coast and the adjacent islands). Our knowledge of Phrygian is probably less than often supposed, because of the paucity of inscriptions and the fact that even less is known about ancient Thracian than about its Phrygian sister. The usual view that the Phrygians, in their movement eastward into southern Armenia in the late twelfth century B.C., were able to settle and ultimately to hand on their language in modified form to the Armenians is probably without any basis. We have no evidence in either Assyrian or Urartian inscriptions for supposing that any substantial number of Phrygians remained behind after their thorough defeat by Tiglath-pileser I.

¹ See *C.A.H.* II³, ch. VI, sect. II.

It was pointed out a number of years ago by Austin¹ that Armenian shares so many grammatical and lexical elements with Hittite that it is much more reasonable to suppose that Armenian developed naturally from the Hittite-Luwian dialects of Armenia Minor west of the upper Euphrates. We have ample historical evidence that the Armenians tended to move eastward as they spread, rather than westward. It was suggested long ago by Jensen that the Armenian national name, *Haik*, stands for older *Hati-k*, in accord with the phonetic regularities of Armenian. The so-called *satem* character of Armenian, as contrasted with the *centum* character of Hittite, may most easily be explained in the same way as a similar phenomenon in hieroglyphic Hittite, namely by palatalization of the Indo-Hittite velar stops. This is a familiar phenomenon in a great many languages and is no argument at all for a *satem* origin of Armenian. Actually there are so many characteristics of Armenian which remind one of Hittite (for instance, its lack of grammatical gender), that it is highly improbable that they can be separated.

Nor is the similarity in Hittite and Armenian physical type irrelevant. While it is, of course, quite true that physical type and language are not necessarily related, at the same time it is rather remarkable that of all the populations of modern Anatolia and neighbouring areas to the east and south-east, the Armenians have best preserved the well-known 'Armenoid' form of Hittite crania. It was no idle combination which made von Luschan give the name 'Armenoid' to this brachycephalic, or even hyper-brachycephalic type with large noses and often receding chins. The original cradle of the Armenian nationality and culture is precisely the area of greatest use of hieroglyphic Hittite script. Less than a century and a half separates the latest Hittite inscriptions from the first mention of Armenia as a name of the country in question (in the inscriptions of Darius Hystaspes). Nor is it irrelevant to recall that Luwian personal names survived into the Hellenistic and Roman periods all through southern Anatolia as far as eastern Cilicia and Cappadocia.² In fact the native Isaurian dialect is said to have been spoken as late as Byzantine times.

One of the least expected results of the Boğazköy excavation in 1907 was the discovery that Indo-Aryan was spoken in south-western Asia during the second millennium B.C. Our evidence for the Indo-Aryans in the Near East now comes not only from Hittite texts but also from the Amarna, Nuzi and Alalakh tablets, and from Middle-Assyrian inscriptions—as well as from mis-

¹ § III, 5; cf. § III, 24, 40 f. for a divergent view. ² § III, 25; see above, p. 141, n. 3.

cellaneous sources. They worshipped specifically Vedic gods, as has been proved conclusively by Paul Thieme,¹ and they employed specifically Indic forms of the numerals (for instance, 'one' is written *aika*, like Sanskrit *eka*, and not **eva*, like Iranian *aiva*). There are many common nouns connected directly and indirectly with horse-breeding and training, as well as with chariot-racing, which are in large part specifically Indo-Aryan in origin.² Furthermore, there are well over a hundred personal names dating between c. 1700 and 1250 B.C. which are certainly or probably Indo-Iranian.³ Some of them are pure Vedic, like *Indrota* for older **Indrauta*, which appears as *Indaruta* in the Amarna tablets. Owing to the inadequacies of cuneiform writing it is often very hard to tell just which one of several etymological possibilities should be adopted in any given case. However this is not too serious a difficulty, since the evidence is increasing all the time. While a few of these names *might* be Iranian, there does not seem to be a single doubtful case where Indic origin is not equally possible.⁴ The earliest of these Indo-Aryan names belongs to Zayaluti, a Manda chief who played an important role in the political and military affairs of Syria about the middle of the seventeenth century B.C.⁵ Not long afterwards we find a group of 'Khurri' chieftains with certain or probable Indo-Aryan names, and the founder of the royal dynasty of Mitanni, Kirta,⁶ about the sixteenth century, like his successors down into the thirteenth century B.C., bears an Indo-Aryan name. Many of these names have to do with horses and chariots, as might be expected from the extraordinary popularity of the then quite recently invented chariot wheel with spokes, which made possible much greater speeds than had been known before.

Since our new evidence from Mesopotamian inscriptions of the dynasties of Akkad, Ur III, and the following centuries make it clear that the final ruin of the Indus valley civilization took place somewhere between the end of Ur III and the eighteenth century B.C., we are justified in attributing the destruction of this civilization to the Indo-Aryan invasion, whether or not it was hastened by natural catastrophes.⁷ It follows, therefore, that the

¹ § III, 26.

² § III, 17; § III, 19, 83 ff.; § III, 20, 144 f.

³ See especially § III, 23, 149 ff.; § III, 19; 20; 21.

⁴ § III, 26; § III, 21, 456 f.

⁵ § III, 1, 31 f.

⁶ So read, with B. Landsberger, instead of the previous []-*di-ir-ta*. P. E. Dumont has pointed out (unpublished) that the name *Kirta* is good Indo-Aryan. Incidentally, I have long been connecting the name (possibly the person) with the hero *KRT* ('Keret') of Ugarit, who is represented as founder of a dynasty.

⁷ § IV, 23. See also the last footnote to this chapter.

old date about 1800 B.C. or perhaps a little later, is very satisfactory for the first irruption of the Indo-Aryans into India. It appears that when the Indo-Aryan nomads came down from Transcaspia about that time, they divided north of the central desert of Iran, one branch going eastward through Bactria to the upper Indus valley, and the other going westward through the Zagros into Mesopotamia and Syria. This invasion had nothing to do with that of the Iranians, who were also charioteers but had by the time of their irruption learned to domesticate the two-humped camel and to depend on it largely for livelihood.¹ Since our earliest evidence from cuneiform sources for Iranian invaders comes from the ninth century B.C., by which time they were already well settled in Media, it seems to follow that they must have come in at some time toward the end of the Late Bronze Age or the beginning of the Iron Age—roughly between 1300 and 1000 B.C. as earliest and latest probable dates.

IV. SUMERIAN, HURRIAN, URARTIAN, ELAMITE

Sumerian is the oldest known literary language of mankind, surpassing even Egyptian in age; the earliest known inscriptions come from the late fourth millennium, perhaps a century or two before the earliest Egyptian inscriptions, and the oldest now known literary texts date from about the twenty-sixth century B.C. (Shuruppak and Tell Abu Šalābikh).² As the language of the first known high culture, it ultimately influenced the West far more than Egypt could.³ It became extinct as a spoken language, for all practical purposes, soon after the close of the Ur III Dynasty, at the end of the third millennium, but was intensively cultivated by scribes down into the second century B.C., if not even later. Thanks to the extraordinary efforts of the Akkadian scribes, from Old Babylonian to Hellenistic times, we have a wealth of trans-

¹ As is now well known, many hymns of the Avesta are pre-Zoroastrian. In any case, the '600 years' before his time attributed by Xanthus of Lydia (middle of the fifth century) to Zoroaster (accepted by Eduard Meyer) may have been based on calculation by generations, in which case the Iranian prophet might have lived about the ninth century B.C. The 'official' date in the sixth century is more and more difficult to accept.

² For Shuruppak (Tell Fārah) see W. G. Lambert in *Bull. A.S.O.R.* 169, 63 f.; for Tell Abu Šalābikh (near Nippur) my information comes from Dr Robert D. Biggs, who has been working on the tablets recently excavated there.

³ §IV, 18, 20.

lations and school texts of all kinds. Specialists can now master most unilingual texts from the third and early second millennium B.C., thanks to these unique helps to study.¹

Sumerian was an agglutinative, semi-incorporating language with no known relatives. Morphemic complexes, grouped around nouns and verbs, are often incorporated into single closely knit structures. Breaking the transcribed Sumerian chains into their formative elements, we may analyse three selected examples from the Gudea texts as follows:

(1) *alam-Gudea-ensi(-k)-Lagaša(-k) lu-E-ninnu-in-du-a-k-e*. An approximate analysis of these elements in English translation would be: 'statue-Gudea-viceroy(-of)-Lagash(-of) who-house-of-Ninnu-he-it-built-(participial ending)-of-(subject suffix)'. Put into intelligible English this would become: 'The statue of Gudea, viceroy of Lagash, who built the house of Ninnu.'

(2) *uru-a ama-lu-tur-ak-e a-silima(-k) garr-am . . .* In literal English translation this would yield: 'city-in mother-man-ill-of-(subject affix) water-health(-of) put-(transitive participial ending) . . .'. In English prose this would become: 'In the city the mother of the sick man has set water of health . . .'

(3) *Gudea . . . ensik-e uru-na lu-aš-gim na-ri ba-ni-gar ki-Lagaša(-k)-e dumu-ama-aš-a-gim ša-mu-na-aš-e*. Literally translated, we have something like this: 'Gudea . . . viceroy-the (subject), city-his-for, man-one-like, jubilee-he-it(there)-made, territory-Lagash(-of)-the, son(s)-mother-one-of-like, mind-he-him-for-uniting.' In intelligible English this would be: 'Gudea . . . the viceroy, arranged a general celebration for his city; the territory of Lagash, like children of one mother, becoming of one mind toward him.'²

There are in particular many verbal prefixes and infixes which were employed for elaborate distinctions between direction in which, direction from which, and other shades of local and objective/subjective meaning. There was also a remarkable breakdown in the phonetic structure of individual words and compounds which often led to a situation quite comparable to that which now exists in Chinese, where we have many syllables containing the same articulatory elements which appear to us as homonyms but which are distinguished by the use of 'tones' or other similar modes of differentiation. We must remember, however, that (as proved by Bernhard Karlgren) ancient Chinese had more elaborate phonetic structures before they were broken down in the course

¹ §IV, 26, 9.

² The foregoing examples have been adapted to our purposes from §IV, 9. We have rendered *na-ri-gar* 'make a purification' as referring to a consecration or a jubilee.

of the last two millennia, so that there were not nearly as many superficially homonymous words in ancient Chinese as are found in the modern dialects of China. We cannot be sure that there were tones in Sumerian, but it is very difficult to see how its speakers could otherwise have distinguished meanings of so many monosyllabic words with only two phonemes. Such phenomena may be quite secondary, as in Swedish. In modern linguistics it is recognized that every practicable means of differentiation, including gestures, may be used to clarify meaning.

Sumerian is also known to have had half a dozen or more 'dialects', which we cannot clearly distinguish geographically or historically. For instance, the so-called Emesal dialect was certainly used in much Sumerian religious poetry, but we are still unsure of its proper location or period. To judge from Semitic loanwords and phonetic considerations, it would seem that it split off from ancestral Sumerian quite early and developed in northern Babylonia.

It is often held today that Sumerian was a newcomer in Babylonia, which the Sumerians are supposed to have occupied in comparatively recent times, between the end of the 'Ubaid period and the beginning of Early Dynastic.¹ Today many scholars are inclined to think that the Semites were there as early as the Sumerians and that they may have exercised as much influence on the latter as the latter on them.² This goes, however, much too far, in view of often neglected facts to the contrary. If it were true we should scarcely expect to find that all known divine names used in the context of early Sumerian inscriptions are Sumerian; a case such as *Sin*, the Moon-god, is no exception. *Sin* is sometimes declared to be Semitic because it is used to translate Sumerian *Nanna(r)*. The earliest form of the name was *Zuen* or *Zuin*, which is found in Old Assyrian inscriptions from the nineteenth century B.C. *Zuin* was later contracted and the sibilant shifted until the name became *Sin*, following normal principles of phonetic development. Since in early Sumerian inscriptions the order of elements in phonetic as well as in 'logographic' writing was irregular, a sign which we should place second often precedes a sign which we should place first. Thus the Sumerian logogram EN.ZU should be read *Zuen*, from which the other forms are normal derivatives.

¹ §1v, 14, 261 ff. offers an extreme view; §1v, 20, 42 ff. states a somewhat more moderate position.

² In addition to the foregoing note see §1v, 8, 246 ff.; for Landsberger's views on the pre-Sumerian source of Mesopotamian civilization see §1v, 20, 40 f. Contrast especially §1v, 10, 310 ff.

Similarly, a name which has sometimes been taken to be Semitic in origin, that of the Sumerian water god Ea, is certainly Sumerian and not Akkadian. We should read *Ae* (or *'A_x-a* without transposition) instead of *Ea*, as is proved by the facts that in Hurrian and Hittite the name of the god is spelt *Aya-*, and that the later Greek transcription is *Aos*.

Strong evidence for early date of Sumerian penetration into Mesopotamia is found in the names of rivers and streams, which are not likely to have been introduced after the building of towns had begun. Among such names are those of the Euphrates and Tigris, of the Khabur and Balikh, as well as probably the names of a number of minor tributaries. If any of these names were Semitic we should have much more reason to assume that the Semites had entered Babylonia before or about the same time as the Sumerians. There is, however, no such evidence. Just as in most parts of the Old World where we can control our data, in ancient Mesopotamia the names of rivers belong to the earliest known phase of linguistic occupation. Note especially the following river names:

Sumerian *Buranun-* (Euphrates) > **Burann-* > Akkadian **Purantu* (with typical feminine ending) > *Purattu*; Hurrian *Puranti-* is derived from an older Akkadian form. *Buranun-* contains the same element, *bur*, that we have in *Ḫabur*, and probably means 'mighty water-source' (Delitzsch) or the like.¹

Sum. *Idigna* (Tigris) > Akk. *Idiglat*. *Idigna* was probably derived from **Id(i)gina*, 'running river' (Delitzsch).²

Akk. *Ḫabūr* (Arab. *Ḥābūr*), 'source of fertility', from Sumerian *ḫe(n)-bur*; cf. *ḫenbur* > *ḫabbūru*, 'flowering stalk', and Sum. *Ḫubur*, name of the river of fertility in the underworld (*Ḫubur* for **Ḫabur* is like *dumu* for *damu*, 'son').

Akk. *Balīḫ* (Arab. *Balīḥ*) is the river god *Balīḫ* (written in the same way, both phonetically and logographically, as the name of Etana's son in different copies of the King List).³

Some insist that the lack of clear—or even of any—phonetic relationship between many names of early Sumerian cities and the Sumerian reading of the logograms with which these names are usually expressed proves that the latter are older than the entrance into the country of the Sumerians, who gave them logographic names, most of which have to do with shrines and temples of the

¹ §1v, 6, 70. Note that not only the names of the two great rivers, but also the oldest Akkadian names of countries, *Subartu* (< Sum. *Subir*) and *Elamtu* (< Sum. *Elam*) have feminine endings attached to the Sumerian base.

² §1v, 6, 21.

³ §1v, 16, 80 f. and n. 76.

gods.¹ Just to illustrate, there is no obvious connexion between the logographic EN.LİL^{KI} and the phonetic *Nibru* (properly **Nibur* > *Nippur*). But since Enlil () Ellil) was the chief god of the most important cultic centre in central Babylonia, such a writing is in no way strange. This entire point of view is very much exaggerated. In the first place there is no reason whatever to doubt that there has been some phonetic change in really old names like those of *Uruk* (Biblical *Erech*) which was *Unu(g)* in late Sumerian. *Uruk* for *Unug* is very possibly influenced by the ordinary word *uru* for city. It can also be explained in other ways. The name of Ur, which is written logographically URĪ.UNU(G)^{KI} (which may also be transcribed URŪ.UNU^{KI}), was pronounced with final *m* (*Urum* or *Urim*), which may have been taken as mimation in Akkadian, leaving only *Uru* () *Ur*) as Semitic nominative. On the other hand, we cannot explain a name like *Larsa(m)*, for possible *(*A*)*rar-za(m)*, from the logographic spelling UTU.-UNU(G)^{KI} meaning 'shrine of the sun-god'. The name of the ancient sacred city of Eridu in the extreme south of Babylonia was written two ways: (1) URU.DŪ(G), probably the direct source of *Eridu*, since URU also had the value *eri*, perhaps in one of the dialects; (2) NUN.KI, literally 'Place of the Prince', *Enki* or *Ae* (*Ea*).

There are several points to be considered which are usually neglected in such sweeping judgements as the supposed non-Sumerian origin of most Sumerian place-names. The first point is that we must reckon with much shifting of dialects and different pronunciations in different periods as well as with the fact that the Akkadian forms of later times were taken over from Sumerian at various stages and from different dialects of Sumerian. Secondly we seldom possess a phonetically written name of an important Sumerian city dating from the third millennium B.C., so there is often no means of knowing how a unilingual Sumerian actually pronounced the name of his native town. A good illustration of the sort of thing that happens is found when we compare the many different writings of a canal name such as *Iturungal* with minor and even major variations.² A third difficulty is caused by the use of undoubtedly different names for the same place in different circumstances and in different periods, just as we find three different names of Memphis in Egypt: '*Ineb-ḥedj*, 'White Wall',

¹ The names in question may also have been applied primarily to the fortified temple around which a town was built; parallels in Egypt and Palestine are very numerous.

² §IV, 17, 177.

which was the oldest known name of the city; its monumental name, *MEN-NEFER*, Hebrew *Moph* and Akkadian *Mempi*; and thirdly its sacred name, belonging primarily to the shrine of Ptah, chief god of Memphis: *Hekuptah* (*hwt-k3-PTH*), whence Ugaritic *Hekupta* (*hkpt*) and Greek *Aigupios*.

Sometimes there can be reasonable doubt as to whether the Sumerian or Semitic name is older. It is held by some that *Bābili(m)* (Hebrew *Bābel* and Greek *Babylōn*) was originally Sumerian KĀ.DINGIR.RA^{KI}, 'Gate of God', as the name was written logographically. In this case the Hurrian and Cossaeon *Pabil* or *Pabal* confirms the antiquity of the Semitic name. In another case we have a logographic writing BĀD.URUDU.-NAGAR^{KI}, pronounced *Bad-tibira*, 'Wall of Copper Worker(s)', as we know from early phonetic writings and especially from the corrupted Greek name *Pantibibla* (formerly the name was read as Semitic: *Dūr-gurgurri*). Since *Bad-tibira* was one of the antediluvian cities in the Babylonian lists, its Sumerian origin is certain.¹ Another name with the same formation is Borsippa, the oldest known logogram of which is BĀD.SI.(A).AB.BA^{KI}. The Akkadian form of the name was Barsip, which is a transparent Semitic corruption of the Sumerian form—probably at an early period, antedating inscriptional evidence; the name appears on the upper Euphrates in early times as *Barsip* (later *Til-Barsip*). Still other names, such as Dilbat and Aratta, are obviously abbreviations of longer names with cultic meanings. The logogram UNU is also used for phonetic *ab* as well as for phonetic *un(u)*: witness spellings like *Udab* or *Adab* for UD.UNU^{KI}.

We can also make the Sumerian origin of most Babylonian place-names clear by simply comparing their phonetic structure with that of common Sumerian words.² For example, many ordinary Sumerian words have suffixed *g* or *k*, often identical with the genitive *ak*. Thus with names like *Šurup(p)ak*, *Larak*, *Akšak*, we may compare words like *hursak* (*hursag*), *nisak* (*nišag*), *isak* (for older *ensik*), *santak* and the like. With names ending in *r*, which are particularly common in Sumerian, we may compare *agar*, *ingar*, *amar*, *engar*, *ubar*, *babbar*, *gišimar*, *dupsar*, and so on. With names ending in *ir* we may compare *esir*, *egir*, *bap(p)ir*, *gigir*, *dingir*, *tibir*, etc. Furthermore, the structure of words is often parallel. For instance, *Agade*, Semitic *Akkadû* for **Akkade'u*, may be compared with many equally composite Sumerian words ending

¹ §14, 16, 70 ff.

² §14, 1, 61 f. Naturally this is antiquated, but the principle remains sound; a thorough study would yield very interesting results.

in *e*, for example, *unuge*, *ade*, *gude*. The ending *ua*, which we find in *Gudua*, *Ninua*, appears also in *indua*, *narua*, and so on. Similarly the archaic form of later *Aššūr*, which appears in an Assyrian seal from the Akkad Dynasty as *Anšur*, reminds one of the Sumerian *banšur*, etc. With *Nibru* (undoubtedly a dialectal variant of **Nibur*, which became normal *Nippur* in Akkadian), we may compare such place-names as *Girsu*, and such common nouns as *ildu*, *amaru*, *abzu*, *geštu*, etc. In short, there is no reason whatever to derive the place-names of early Babylonia from some otherwise unknown northern or eastern language—preserved only in a few place-names.

It has been argued repeatedly that there was a sharp break in the cultural continuity of Babylonian life, which must somehow be connected with the entrance of the Sumerians. This Sumerian invasion is supposed to have taken place in the latter part of the fourth millennium, after the end of the 'Ubaid period proper, or in the early third millennium, after the Uruk and even the Jamdat Našr period.¹ Recent archaeological work in Babylonia has proved that settlement there went far back to before the 'Ubaid period, and that there is no real discontinuity of culture after that.² The fact is that changes in pottery and building styles do not necessarily mean a change in ethnic identity or language. For example, in Greece we now know that Late Helladic pottery was used in most of the country by a population that spoke and wrote Greek. The following superficially quite different Geometric culture was still Greek, and so were the phases of Corinthian pottery and of black-figured and red-figured ware which followed in historical order from c. 700 to the middle of the fourth century B.C.

General continuity of physical type is traceable in Mesopotamia back to the earliest times for which we so far have evidence. Cranial types were all about the same, with a similar mixture of dolichocephaly and brachycephaly in all known ages.

During the century since the discovery of Sumerian no valid cognate has been recognized, in spite of indefatigable efforts. Possibly the closest in structure among known Eurasian languages is Turkish, which possesses a host of suffixes, whereas in Sumerian we have a semi-incorporating structure, built up with nominal suffixes and with verbal prefixes and infixes, as well as some suffixes. It is impossible in a case like this to utilize the few similar morphemes or separate words which occur, because we know too little of their original meaning and structure. For example, Turkish *tengri* (Ottoman *tanrı*), 'god', has often been quoted as an illustra-

¹ See above, p. 147, n.1.

² §IV, 22, 44 ff. The archaeological evidence is set out below, pp. 343 ff.

tion of possible relationship between Sumerian and Turkish. In Sumerian the word for 'god' is *dingir*, or *dim(m)er*, or *tiher*, in different dialects. The effort has sometimes been made to connect Sumerian with Finno-Ugrian¹ or Hurrian. In both we have a proliferation of suffixes with noun and verb, but agglutination or semi-incorporation of verbal or morphemic elements does not prove kinship. The once accepted hypothesis of genetic relationship between Finno-Ugrian and Turkish (supposed to belong to a single Ural-Altaic family), has now been given up by many specialists.² As for Hurrian (see below), the fact that we can trace it back to about 2400 B.C. in south-western Asia without finding any signs of kinship to Sumerian, makes it doubly improbable that any common origin will be found. In short, it seems probable that Sumerian will prove refractory to any yet known method of comparative linguistic analysis.

Since the first—and still the most important—Hurrian tablet was discovered among the Mitanni letters from Amarna published in 1889, texts and documents in this language have multiplied. We now have written Hurrian material extending over approximately a millennium, from the time of Tisari (or Tisatal), king of Urkish in the eastern Khabur basin (Akkad Dynasty)³ to the fourteenth-thirteenth century B.C. Our texts come chiefly from Boğazköy, Ugarit and Mari, while Akkadian documents from Nuzi, Alalakh and many other sites furnish a vast storehouse of Hurrian personal names.⁴ Curiously enough, most of these texts are literary and scholastic in nature, yielding examples of genres as far apart as myths and epics, divinatory tablets and bilingual vocabularies (Sumerian and Hurrian). Since the Hurrian texts are transcribed into different forms of Mesopotamian cuneiform as well as into different scripts, and since they exhibit both diachronic and synchronic differentiation according to successive phases and contemporary dialects, their linguistic interpretation has proved to be very difficult; it has best been accomplished by Speiser, whose analysis retains most of its value after a quarter of a century.⁵

Hurrian was an agglutinative language, with chains of suffixes invariably placed after substantives and verbal stems. According to Speiser, as many as ten suffixes may be distinguished.⁶ This situation reminds one of Finno-Ugrian, but there is no evidence for an historical connexion. Since word units and complexes are

¹ This view was held by a distinguished Finnish Assyriologist, the late Harri Holma, but most of his work was never published.

² See above, p. 129, n. 3.

³ § IV, 25.

⁴ § IV, 13.

⁵ § IV, 29.

⁶ § IV, 29, 69.

separated from one another in most Hurrian texts (especially in the Mitanni letter, where we find careful spacing, and in the Ugaritic texts, where word dividers are used), there is a solid basis for morphological and syntactic analysis.

As we have seen, Hurrian first appears on our geographical horizon in the extreme north of Mesopotamia. No Hurrian names appear at Nuzi (then called *Gasur*) in the twenty-fourth to twenty-third centuries B.C., whereas they became dominant there in the fifteenth-fourteenth centuries. No Hurrian names are found in the Egyptian Execration Texts dealing with Palestine and southern Syria in the twentieth-nineteenth centuries, but they became common in the fifteenth-fourteenth centuries. Evidently the Hurrians accompanied the Indo-Aryans in their advance westward and southward. It would seem that the Hurrians, who tended to be strongly Armenoid in physical type, had long been occupying the northern mountain ranges, but details escape us completely.¹

On the other hand there must have been a close cultural relationship between the Hurrians and the Urartians who followed them in the mountains and plateaux of Armenia Major (east of Armenia Minor), where the still later Armenian ethno-geographical unit developed.² This close relation appears in borrowed names of divinities and in similar vocables, which may either be loanwords from Hurrian or originally related words. Because of the limited extent and specialized character of the Urartian texts, which are nearly all royal building or triumphal inscriptions, it is difficult to analyse their structure adequately for comparative purposes.³ Yet it may be seen that the language was prevalingly suffixal, though no such long chains are yet known as we find in the Mitanni letter. It is also clear that there is a penchant for a passival concept of the transitive verb, as in Hurrian. According to Goetze and most students, Urartian is simply a 'younger Hurrian dialect'.⁴ According to Dyakonov Urartian is, however, more archaic than Hurrian in phonology and less archaic in morphology.⁵ In spite of the resemblances it cannot be denied that the personal names are quite different, and that both vocabu-

¹ The physical type is inferred from monuments of the Mitanni region in the second millennium, which show the same type as we find on the Hittite monuments, as well as from the tendency to replace dolichocephaly by brachycephaly in cemeteries of the Middle Bronze Age in Syria and Palestine.

² §IV, 2; §III, 13, 187 ff. See above, p. 143.

³ §IV, 11.

⁴ §III, 13, 194.

⁵ §III, 24, 41 (in the title given to Dyakonov's contribution, 'Hittite' should be 'Hurrite').

lary and syntax diverge widely. The safest view at present seems to be that there is kinship, but that it is remote. Nothing can obscure the fact that there was a sharp break between the Hurrian cultures known from personal names and cultural tradition down to the late second millennium, and the Urartian which followed almost immediately.

The last of the languages which we shall discuss is Elamite, which has been known since the early nineteenth century as the third language of the trilingual Achaemenian royal inscriptions of the late sixth to early fourth centuries B.C.¹ Thanks to several decades of French excavation at Susa and other sites in Susiana, Elamite can be traced back to the early third millennium, when it was written in a pictographic script (Proto-Elamite) with Sumerian analogies.² The pictographic script was followed by an apparently unconnected linear script which was partly deciphered by Walther Hinz in 1961.³ In the Akkad period it began to be written in Babylonian cuneiform, which gradually developed a special syllabary of its own. Meanwhile Elamite continued in use as the actual language of Susiana, though it was already filled with Old Persian loanwords by the late fifth and early fourth centuries B.C.⁴ There is no reason to doubt that Elamite continued to be spoken as *Khōzī* until the tenth century A.D., if not later.⁵

Elamite was also a suffixing language, though the extent to which it can be called 'agglutinative' must await the discovery and interpretation of letters and literary texts, which generally tell us much more about linguistic structure than the formal inscriptions and administrative texts on which we largely depend. It was certainly agglutinative in the sense that morphemic elements are much more loosely 'bound' in a chain than would be true of inflectional families like Indo-Hittite and Afro-Asian. There was also a tendency to treat transitive verbs passively, as in Hurrian and Urartian; it must, however, be emphasized that this phenomenon may also be considered as an isogloss rather than as an indication of genetic relationship.

Since there is absolutely no evidence for a migration of Elamite-speaking people from the northern mountains, there is a strong possibility that Elamite is related through Brahui, still spoken in Balūchistān (south-western Pakistān) to the Dravidian tongues of southern India, which exhibit a somewhat similar structure.

¹ On the Elamites and their background see particularly *C.A.H.* 1³, ch. xxiii and 11³, chh. vii, xxix, xxxii.

² *C.A.H.* 1³, ch. xxiii, sect. iv.

³ §iv, 15.

⁴ §iv, 3, 40 ff.

⁵ Arabic *Khūzistān* means, of course, 'Khōzī-land'.

This frequently suggested connexion has gained plausibility in recent years, after the recovery of the Indus Valley civilization of Harappā and Mohenjo Daro. Today it is ethno-geographically even more plausible, since Harappā ports have been discovered some 400 miles west of the mouth of the Indus, at the Iranian frontier,¹ while Indian archaeologists have located nearly a hundred sites between the Rann of Kutch on the Indian frontier south-east of Karachi and a site some 150 miles north of Bombay.² In other words, the entire coastal area of Indus valley civilization was perhaps occupied by Dravidians, who have left their linguistic imprint west of the lower Indus valley and within 400 miles of the southernmost now known outpost of the Harappā culture in question. Among common features are the relatively simple suffixing structure in nouns and verbs, which is agglutinative rather than inflexional, and a tendency toward passival treatment of transitive verbs. It is interesting to note that M. Andronov has lately employed glottochronology to estimate the approximate time at which Brahui may have separated from its Dravidian sisters in India, arriving at a plausible date in the early fourth millennium B.C.³ Needless to say, this is not a precise calculation, but it is quite reasonable in the light of our archaeological and cuneiform evidence, which fixes the final destruction of the Indus valley culture by the Indo-Aryan invaders somewhere between c. 1950 and 1750 B.C.⁴ Further research in comparative Dravidian linguistics, which seems to be a most likely area for scientific exploration, has now become an urgent necessity.

¹ See George F. Dales, 'Harappan Outposts on the Makran Coast', *Antiq.* 36 (1962), 86 ff.

² See S. R. Rao, 'Excavation at Rangpur and Other Explorations in Gujarat' in *Ancient India*, nos. 18-19 (1963).

³ §III, 4.

⁴ §S. R. Rao, *op. cit.*, Plate LII, opposite p. 200, places the end of Harappā culture proper about 1500 B.C., with its height about 2000, but the dates are too low even for the low Babylonian chronology, and B. B. Lal, *Ancient India*, nos. 18-19, pp. 208 ff., basing himself on radiocarbon datings, now wishes to raise the date of the end of Harappā culture in its proper sense 'by about a couple of centuries' (p. 219), 'to c. 1700 B.C.'. See above, p. 144.

BIBLIOGRAPHY

ABBREVIATIONS

- A.A.W. Wien.* Anzeiger der Österreichischen Akademie der Wissenschaften (Phil.-hist. Klasse)
Abh. Berlin (München, etc.). Abhandlungen der Preussischen (Bayerischen, etc.) Akademie der Wissenschaften, Phil.-hist. Klasse
Abh. Mainz. Abhandlungen der Preussischen Akademie der Wissenschaften, Math.-naturwiss. Klasse
Acta Arch. Acta Archaeologica
Acta Or. Acta Orientalia
Aeg. Inschr. Berlin. Aegyptische Inschriften aus den . . . Museen zu Berlin
Ägyptol. Forsch. Ägyptologische Forschungen
A.I.R.R.S. Acta Instituti Romani Regni Sueciae
A.J. Antiquaries Journal
A.J.A. American Journal of Archaeology
A.J.S.L. American Journal of Semitic Languages and Literatures
Alte Or. Der Alte Orient
An. Biblica. Analecta Biblica
An. Or. Analecta Orientalia
Anc. Egypt. Ancient Egypt (continued as *Ancient Egypt and the East*)
Ann. Arch. Anthr. Annals of Archaeology and Anthropology (Liverpool)
Ann. Arch. de Syrie. Annales Archéologique de Syrie
Ann. A.S.O.R. Annual of the American Schools of Oriental Research
Ann. Assoc. Amer. Geog. Annals of the Association of American Geographers
Ann. D.A.J. Annual of the Department of Antiquities of Jordan
Ann. N.Y. Acad. Sci. Annual of the New York Academy of Sciences
Ann. Serv. Annales du Service des Antiquités de l'Égypte
Antiq. Antiquity
A.O.S. American Oriental Series, American Oriental Society
Arch. Anz. Archaeologischer Anzeiger. Beiblatt zum Jahrbuch des deutschen archäologischen Instituts
Arch. Delt. Ἀρχαιολογικὸν Δελτίον
Arch. de l'Inst. de Paléont. hum. Archives de l'Institut de Paléontologie humaine
Arch. Eph. (Ἀρχ. Ἐφ.) Ἀρχαιολογικὴ Ἐφημερίς
Arch. f. Or. Archiv für Orientforschung
Arch. Orient. Archiv Orientalní
A.R.M. Archives royales de Mari
A. St. Anatolian Studies
Ath. Mitt. Athenische Mitteilungen, Mitteilungen des deutschen archäologischen Instituts, Athenische Abteilung
B.A. Beiträge zur Assyriologie und semitischen Sprachwissenschaft
B.C.H. Bulletin de Correspondance hellénique
B.E. Babylonian Expedition of the University of Pennsylvania
Bibl. Aeg. Bibliotheca Aegyptiaca
Bibl. Arch. et Hist. Bibliothèque archéologique et historique
B.I.N. Babylonian inscriptions in the collection of J. B. Nies, Yale University
Bi. Or. Bibliotheca Orientalis

- B.M. Quart. British Museum Quarterly*
Boll. Soc. Geol. Ital. Bollettino della Società Geologica Italiana
B.R.G.K. Bericht der römisch-germanischen Kommission
B.S.A. Annual of the British School at Athens
Bull. A.S.O.R. Bulletin of the American Schools of Oriental Research
Bull. A.S.P.R. Bulletin of the American School of Prehistoric Research
Bull. Inst. Arch. London Bulletin of the Institute of Archaeology, University of London
Bull. Inst. d'Ég. Bulletin de l'Institut d'Égypte
Bull. I.E.S. Bulletin of the Israel Exploration Society
Bull. M.B. Bulletin du Musée de Beyrouth
Bull. M.M.A. Bulletin of the Metropolitan Museum of Art (New York)
Bull. Soc. fr. d'ég. Bulletin de la Société française d'Égyptologie
Bull. Soc. Geogr. d'Égypte. Bulletin de la Société de géographie (d'Égypte)
Bull. Soc. préh. fr. Bulletin de la Société préhistorique française
C.A.H. Cambridge Ancient History
Cah. H.M. Cahiers d'histoire mondiale
C.C.G. Cairo Museum, Catalogue Général
Chron. d'Ég. Chronique d'Égypte
C.-R. Ac. Inscr. B.-L. Comptes-Rendus de l'Académie des Inscriptions et Belles-Lettres
C.-R. du congr. géol. int. (Belgique). Comptes-Rendus du congrès géologique international
C.T. Cuneiform Texts from Babylonian Tablets etc. in the British Museum
E.S.A. Eurasia septentrionalis Antiqua
Geogr. Rev. Geographical Review
Geol. Mag. Geological Magazine
Gesch. Alt. E. Meyer, Geschichte des Altertums
G.J. Geographical Journal
Hierat. Pap. Berlin. Hieratische Papyrus aus den königlichen Museen zu Berlin
Hist. Z. Historische Zeitschrift
H.U.C.A. Hebrew Union College Annual
I.E.J. Israel Exploration Journal
Ill. Ldn News. Illustrated London News
Jahrb. des d. arch. Inst. Jahrbuch des deutschen archäologischen Instituts
J.A.O.S. Journal of the American Oriental Society
J. Bibl. Lit. Journal of Biblical Literature and Exegesis
J.C.S. Journal of Cuneiform Studies
J.E.A. Journal of Egyptian Archaeology
J.E.O.L. Jaarbericht van het Vooraziatisch-Egyptisch Genootschap, 'Ex Oriente Lux'
J.H.S. Journal of Hellenic Studies
J.N.E.S. Journal of Near Eastern Studies
J.P.O.S. Journal of the Palestine Oriental Society
J.R.A.I. Journal of the Royal Anthropological Institute
J.R.A.S. Journal of the Royal Asiatic Society
J.R.S.A. Ireland Journal of the Royal Society of Antiquaries of Ireland
J.W.H. Journal of World History
K.A.V. Keilschrifttexte aus Assur verschiedenen Inhalts
K.F. Kleinasiatische Forschungen
K.U.B. Keilschrifturkunden aus Boghazköi
M.D.O.G. Mitteilungen der Deutschen Orient-Gesellschaft

- Mém. Ac. Inscr. B.-L.* *Mémoires de l'Académie des Inscriptions et Belles-Lettres*
Mém. D.P. *Mémoires de la Délégation en Perse*
Mém. Miss. fr. Caïre. *Mémoires publiés par les membres de la Mission archéologique française au Caïre*
Mitt. deutsch Inst. Kairo. *Mitteilungen des deutschen Instituts für ägyptische Altertumskunde, Kairo*
Mitt. Inst. Or. *Mitteilungen des Instituts für Orientforschung, Berlin*
M.J. *Museum Journal, University of Pennsylvania*
Mon. Ant. *Monumenti Antichi (Milan)*
M.U.S.J. *Mélanges de l'Université St.-Joseph*
M.V.A.G. *Mitteilungen der vorderasiatisch-ägyptischen Gesellschaft*
O.I.C. *Oriental Institute Communications*
O.I.P. *Oriental Institute Publications*
O.L.Z. *Orientalistische Literaturzeitung*
Or. *Orientalia*
Or. Suecana. *Orientalia Suecana*
P.B.S. *University of Pennsylvania. The University Museum. Publications of the Babylonian Section*
P.E.F.Q.S. *Palestine Exploration Fund, Quarterly Statement*
P.E.Q. *Palestine Exploration Quarterly*
P.P.S. *Proceedings of the Prehistoric Society*
Præhist. Zeitschr. *Præhistorische Zeitschrift*
Praktika *Πρακτικά τῆς Ἀρχαιολογικῆς Ἑταιρείας*
Proc. Amer. Philosoph. Soc. *Proceedings of the American Philosophical Society*
Proc. Brit. Acad. *Proceedings of the British Academy*
Proc. R.I.A. *Proceedings of the Royal Irish Academy*
Proc. Roy. Soc. A (B) *Proceedings of the Royal Society of London, A (B)*
Proc. Roy. Soc. Tasmania. *Proceedings of the Royal Society of Tasmania*
P.S.B.A. *Proceedings of the Society of Biblical Archaeology*
P.W. *Pauly-Wissowa-Kroll-Mittelhaus, Real-encyclopädie der classischen Altertumswissenschaft*
Q.D.A.P. *Quarterly of the Department of Antiquities of Palestine*
Quart. Journ. Geol. Soc. Lond. *Quarterly Journal of the Geological Society of London*
Quart. Journ. Roy. Met. Soc. *Quarterly Journal of the Royal Meteorological Society*
R.A. *Revue d'Assyriologie et d'Archéologie orientale*
R.D.A.C. *Report of the Department of Antiquities, Cyprus*
Rec. Champ. *Recueil d'études égyptologiques dédiées à la mémoire de Jean-François Champollion*
Rec. trav. *Recueil de travaux relatifs à la philologie et à l'archéologie égyptiennes et assyriennes*
R.E.G. *Revue des études grecques*
Rev. Anth. *Revue Anthropologique*
Rev. bibl. *Revue biblique internationale*
Rev. d'égyptol. *Revue d'égyptologie*
Rev. géogr. physique et géol. dynamique. *Revue de géographie physique et de géologie dynamique*
Rev. sci. *Revue scientifique*
R.H.A. *Revue Hittite et Asiatique*
Riv. di Antropol. *Rivista di Antropologia*
Riv. di Sci. Preist. *Rivista di Scienze Preistoriche*
Riv. stud. or. *Rivista degli studi orientali*

- R.L.A. Reallexikon der Assyriologie*
S.A.O.C. Oriental Institute of the University of Chicago, Series in Ancient Oriental Civilization
Sitzungsb. Berlin (München, etc.) Sitzungsberichte der Preussischen (Bayerischen, etc.) Akademie der Wissenschaften
Sov. Arkh. Sovetskaya Arkhitektura
Top. Bibl. B. Porter and R. L. B. Moss, Topographical Bibliography of Ancient Egyptian Hieroglyphic Texts, Reliefs, and Paintings
Trans. N.Y. Acad. Sci. Transactions of the New York Academy of Sciences
T. u. M. Texte und Materialien der Hilprecht Sammlung, Jena
U.E. Ur Excavations
U.E.T. Ur Excavations: Texts
Unters. Untersuchungen zur Geschichte und Altertumskunde Ägyptens (ed. K. Sethe, later H. Kees)
Urk. Urkunden des ägyptischen Altertums, ed. G. Steindorff, later H. Grapow
U.V.B. Uruk: vorläufiger Bericht
V.A.S. Vorderasiatische Schriftdenkmäler
We. Or. Die Welt des Orients
Wiad. Arch. Wiadomości Archeologiczne (Bulletin archéologique polonais)
W.P.Z. Wiener prähistorische Zeitschrift
W.Z.K.M. Wiener Zeitschrift für die Kunde des Morgenlandes
Z.A. Zeitschrift für Assyriologie und vorderasiatische Archäologie
Z.Ä.S. Zeitschrift für ägyptische Sprache und Altertumskunde
Z.D.M.G. Zeitschrift der Deutschen Morgenländischen Gesellschaft
Z.D.P.V. Zeitschrift des Deutschen Palästina-Vereins
Z.E. Zeitschrift für Ethnologie
Z. f. schweiz. Archäol. u. Kunstgeschichte. Zeitschrift für schweizerische Archäologie und Kunstgeschichte
Z.V. Zeitschrift für Vorgeschichte

BIBLIOGRAPHY

CHAPTER I

I. INTRODUCTION

1. Stille, H. *Grundfragen der Vergleichenden Tektonik*. Berlin, 1924.
2. Suess, E. *The Face of the Earth (Das Antlitz der Erde)*, 5 vols. (translated by H. B. C. Sollas). Oxford, 1904-24.

II. THE AFRASIAN PLATFORM

1. Blackett, P. M. S. 'Comparisons of ancient climates with the ancient latitudes deduced from rock magnetism measurements.' In *Proc. Roy. Soc. A*, 263 (1961), 1 ff.
2. King, L. C. *The Morphology of the Earth*. Edinburgh, 1962.
3. Runcorn, S. K. 'Climatic change through geological time in the light of the palaeomagnetic evidence of polar wandering and continental drift.' In *Quart. Journ. Roy. Met. Soc.* 87 (1961), 282 ff.
4. du Toit, A. *Our Wandering Continents*. Edinburgh, 1937.
5. Wegener, A. *Die Entstehung der Kontinente und Ozeane*. Ed. 3 (English translation by J. G. A. Skerl, *The Origin of Continents and Oceans*). London, 1924.

15. Louis, M. 'Les pointes en forme de feuille et à retouches bifaciales de Lommel.' In *C.R. XII Congr. Préhist. de France*, XIIe sess. 1936, 412 ff.
16. Nuber, A. H. 'Zur Schichtenfolge des Kleingerätigen Mesolithikums in Württemberg und Hohenzollern', *Festschrift f. Peter Goessler*. Stuttgart, 1954.
17. Ophoven, M., Saccasyn della Santa, E., and Hamal-Nandrin, J. *Utilisation à l'âge de la pierre (Mésolithique) du grès-quartzite dit de Wommersom*, 1948.
18. Peters, E. 'Das Mesolithikum der Oberen Donau.' In *Germania*, 18 (1934), 81 ff.
19. Reinerth, H. *Das Federseemoor*. Leipzig, 1936.
20. Schmidt, R. R. *Die diluviale Vorzeit Deutschlands*. Stuttgart, 1912.
21. Schwabedissen, H. *Die mittlere Steinzeit in westlichen Norddeutschland*. Neumünster, 1944.
22. Szmit, Z. 'Badania osadnictwa epoki kamiennej na Podlasiu.' In *Wiad. Arch.* 10 (1929), 36 ff.
23. Tschumi, O. *Urgeschichte der Schweiz*. Frauenfeldt, 1947.
24. Vértés, L. 'Die Ausgrabungen in Szekszárd-Palánk und die archäologischen Funde.' In *Swiatowit*, 24 (1962), 159 ff.
25. Völzing, O. *Fundberichte aus Schwabe*, N.F. 9 (1935-8), 1 ff.
26. Wyss, R. *Beiträge zur Typologie der Paläolithisch-Mesolithischen Übergangsformen im Schweizerischen Mittelland*. Basel, 1953.
27. Wyss, R. 'Eine mesolithische Station bei Liesbergmühle (Kt. Bern).' *Z. f. schweiz. Archäol. u. Kunstgeschichte*, 17 (1951), 1 ff.
28. Wyss, R. 'Zur Erforschung des schweizerischen Mesolithikums.' In *Z. f. schweiz. Archäol. u. Kunstgeschichte*, 20 (1960), 55 ff.

XII. SOUTH-WEST ASIA

1. Bostanci, Enver Y. 'Researches on the Mediterranean Coast of Anatolia A New Palaeolithic Site at Beldibi near Antalya.' In *Anatolia*, 4 (1959), 129 ff.
2. Braidwood, Robert J. and Howe, Bruce. *Prehistoric Investigations in Iraqi Kurdistan* (S.A.O.C. 31), Chicago, 1960.
3. Coon, C. S. *Cave Excavations in Iran 1949*. Philadelphia, 1951.
4. Coon, C. S. *Seven Caves*. London, 1957.
5. Garrod, D. A. E. 'The Palaeolithic of Southern Kurdistan: Excavations in the Caves of Zarzi and Hazar Merd.' In *Bull. A.S.P.R.* no. 6 (1930), 9 ff.
6. Garrod, D. A. E. 'The Natufian Culture: the Life and Economy of a Mesolithic People in the Near East.' In *Proc. Brit. Acad.* 43 (1957), 211 ff.
7. Kenyon, Kathleen. 'Earliest Jericho.' In *Antiq.* 33 (1959), 55 ff.
8. Neuville, René. *Le Paléolithique et le Mésolithique du Désert de Judée*. *Arch. de l'Inst. de Paléont. hum.*, Mém. 24. Paris, 1951.
9. Perrot, Jean. 'Le Mésolithique de Palestine et les récentes découvertes à Eynan (Aïn Mallaha).' In *Antiquity and Survival*, 2 (1957), 91 ff.
10. Solecki, Ralph S. 'Prehistory in Shanidar Valley, Northern Iraq.' In *Science* 139 (1963), 179 ff.

CHAPTER IV

I. LANGUAGE AND HISTORY

1. Arens, H. *Sprachwissenschaft: Der Gang ihrer Entwicklung von der Antike bis zur Gegenwart*. Munich, 1955.
2. Bloomfield, L. *Language*. New York, 1933.

3. Chrétien, C. D. 'The Mathematical Models of Glottochronology.' In *Language*, 38 (1962), 11 ff.
4. Cohen, M. *Les langues du monde*, 2nd ed. Paris, 1952.
5. Hockett, C. F. *A Course in Modern Linguistics*. New York, 1958.
6. Hoenigswald, H. 'Internal Reconstruction.' In *Studies in Linguistics*, 2 (1943), 78 ff.
7. Hoenigswald, H. *Language Change and Linguistic Reconstruction*. Chicago, 1960.
8. Hoenigswald, H. 'Are there Universals of Linguistic Change?' In *Universals of Language* (ed. J. H. Greenberg). Cambridge (U.S.A.), 1963.
9. Hoijer, H. 'Linguistic and Cultural Change.' In *Language*, 24 (1948), 335 ff.
10. Hymes, D. H. 'Lexicostatistics so far.' In *Current Anthropology*, 1 (1960), 3 ff.
11. Lees, R. B. 'The Basis of Glottochronology.' In *Language*, 29 (1953), 113 ff.
12. Pedersen, H. *Linguistic Science in the Nineteenth Century*. Cambridge (U.S.A.), 1931.
13. Sapir, E. *Language*. New York, 1921.
14. Sapir, E. 'Language and Environment.' In *Selected Writings of Edward Sapir* (ed. D. G. Mandelbaum), 89 ff. Berkeley, 1951.
15. Swadesh, M. 'Linguistics as an Instrument of Prehistory.' In *Southwestern Journal of Anthropology*, 15 (1959), 20 ff.
16. Weinreich, U. *Languages in Contact*. New York, 1953.

II. THE AFRO-ASIAN (HAMITO-SEMITIC) FAMILY

1. Albright, W. F. 'The Principles of Egyptian Phonological Development.' In *Rec. trav.* 46 (1923), 64 ff.
2. Albright, W. F. 'The Early Alphabetic Inscriptions from Sinai and their Decipherment'. In *Bull. A.S.O.R.* 110 (1948), 6 ff.
3. Albright, W. F. *The Proto-Sinaitic Inscriptions and their Decipherment*. Cambridge (U.S.A.), 1966.
4. Altheim, F. and Stiehl, R. *Die aramäische Sprache unter den Achaemeniden*. Frankfurt, 1960.
5. Aro, J. *Studien zur mittelbabylonischen Grammatik*. Helsinki, 1955.
6. Basset, A. *La langue berbère*. Part 1 of *Handbook of African Languages*. Oxford, 1952.
7. Bauer, T. *Die Ostkanaanäer*. Leipzig, 1926.
8. Bauer, H. and Leander, P. *Grammatik des Biblisch-Aramäischen*. Halle, 1927.
9. Beeston, A. F. L. *A Descriptive Grammar of Epigraphic South Arabian*. London, 1962.
10. Bergsträsser, G. *Hebräische Grammatik*. Leipzig, 1918, 1929.
11. Calice, F. *Grundlagen der ägyptisch-semitischen Wortvergleichung*. Vienna, 1936.
12. Cantineau, J. *Grammaire du palmyrénien épigraphique*. Cairo, 1935.
13. Cantineau, J. *Le nabatéen*, 2 vols. Paris, 1930-2.
14. Dalman, G. *Grammatik des jüdisch-palästinischen Aramäisch*, 2nd ed. Leipzig, 1905.
15. Edel, E. *Altägyptische Grammatik*. Rome, 1955.
16. Erman, A. *Neuägyptische Grammatik*, 2nd ed. Leipzig, 1933.
17. Finet, A. *L'accadien des lettres de Mari*. Bruxelles, 1956.
18. Friedrich, J. *Phönizisch-punische Grammatik*. Rome, 1951.
19. Garbini, G. *L'aramaico antico*. Rome, 1956.
20. Gardiner, A. H. *Egyptian Grammar*, 3rd ed., rev. London, 1957.
21. Gelb, I. J. *La lingua degli Amoriti*. Rome, 1958.
22. Gelb, I. J. *Old Akkadian Writing and Grammar*. Chicago, 1961.

23. Gordon, C. *Ugaritic Manual*. Rome, 1955.
24. Greenberg, J. H. *The Languages of Africa*. Bloomington, 1963.
25. Harris, Z. S. *Development of the Canaanite Dialects*. New Haven, 1939.
26. Hintze, E. 'Die sprachliche Stellung des Meroitischen.' In *Afrikanistische Studien*, pp. 355 ff.
27. Höfner, Maria. *Altsüdarabische Grammatik*. Leipzig, 1943.
28. Huffmon, H. B. *Amorite Personal Names in the Mari Texts*. Baltimore, 1965.
29. Leslau, W. 'South-East Semitic (Ethiopic and South Arabic).' In *J.A.O.S.* 63 (1943), 4 ff.
30. Lexa, F. *Grammaire démotique*. Prague, 1947-51.
31. Moran, W. L. 'The Hebrew Language in its Northwest Semitic Background.' In *The Bible and the Ancient Near East* (ed. G. E. Wright), 57 ff. New York, 1961.
32. Moscati, S. *An Introduction to the Comparative Grammar of the Semitic Languages*. Wiesbaden, 1964.
33. Nöldeke, T. *Kurzgefasste syrische Grammatik*, 2nd ed. Leipzig, 1898.
34. Nöldeke, T. *Mandäische Grammatik*. Halle, 1875.
35. Polotsky, H. 'Egyptian.' In *The World History of the Jewish People*. I. *At the Dawn of Civilization* (ed. E. A. Speiser), 121 ff. and 359 ff. Tel-Aviv, 1964.
36. Polotsky, H. 'Semitics.' *Ibid.* 99 ff. and 357 f.
37. Rabin, C. *Ancient West Arabian*. London, 1951.
38. Rössler, O. 'Der semitische Charakter der libyschen Sprache.' In *Z.A.* 50 (1952), 121 ff.
39. Schulthess, F. *Grammatik des christlich-palästinischen Aramäisch*. Tübingen, 1924.
40. Steindorff, G. *Lehrbuch der koptischen Grammatik*. Chicago, 1951.
41. Thacker, T. W. *The Relationship of the Semitic and Egyptian Verbal Systems*. Oxford, 1954.
42. Till, W. *Koptische Grammatik*. Leipzig, 1955.
43. Tucker, A. N. and Bryan, M. A. *The Non-Bantu Languages of North-Eastern Africa*. Part III of *Handbook of African Languages*. Oxford, 1956.
44. Ullendorff, E. *The Semitic Languages of Ethiopia*. London, 1955.
45. Von Soden, W. *Grundriss der akkadischen Grammatik*. Rome, 1952.
46. Von Soden, W. 'Zur Einteilung der semitischen Sprachen.' In *W.Z.K.M.* 56 (1960), 177 ff.
47. Westermann, D. and Bryan, M. A. *Languages of West Africa*. Part II of *Handbook of African Languages*. Oxford, 1952.
48. Winnett, F. V. *A Study of the Lihyanite and Thamudic Inscriptions*. Toronto, 1937.

III. THE INDO-HITTITE FAMILY

1. Albright, W. F. 'Further Observations on the Chronology of Alalakh.' In *Bull. A.S.O.R.* 146 (1957), 26 ff.
2. Albright, W. F. 'Dunand's New Byblos Volume: A Lycian at the Byblian Court.' In *Bull. A.S.O.R.* 155 (1959), 31 ff.
3. Albright, W. F. 'The Eighteenth-Century Princes of Byblos and the Chronology of Middle Bronze.' In *Bull. A.S.O.R.* 176 (1964), 38 ff.
4. Andronov, M. 'Lexicostatistic Analysis of the Chronology of Disintegration of Proto-Dravidian.' In *Indo-Iranian Journal*, 7 (1964), 170 ff.
5. Austin, W. M. 'Is Armenian an Anatolian Language?' In *Language*, 18 (1942), 22 ff.

6. Blegen, C. W. 'The Geographical Distribution of Prehistoric Remains in Greece.' In *A.J.A.* 32 (1928), 146 ff.
7. Carruba, O. 'Lydisch und Lyder.' In *Mitt. Inst. Or.* 8 (1963), 383 ff.
8. Dyakonov, I. M. 'Phrygians, Hittites and Armenians.' In *Problems of Hittite and Hurrology* (U.S.S.R. Academy of Sciences). Moscow, 1961.
9. Friedrich, J. *Kleinasiatische Sprachdenkmäler (Kleine Texte, 163)*. Berlin, 1932.
10. Friedrich, J. *Hethitisches Elementarbuch (Indogermanische Bibliothek, Grammatiken, 23)*. Heidelberg, 1940.
11. Friedrich, J. *Hethitisches Wörterbuch (Indogermanische Bibliothek)*. Heidelberg, 1952-7.
12. Goetze, A. 'The Linguistic Continuity of Anatolia as shown by the Proper Names.' In *J.C.S.* 8 (1954), 72 ff.
13. Goetze, A. *Kleinasiens (Kulturgeschichte des alten Orients)*. München, 1957.
14. Goetze, A. 'Cilicians.' In *J.C.S.* 16 (1962), 48 ff.
15. Gusmani, R. *Lydisches Wörterbuch mit grammatischer Skizze und Inschriftensammlung*. Heidelberg, 1964.
16. Hauschild, R. *Die indogermanischen Völker und Sprachen Kleinasiens (Sitzungsb. Leipzig, 109, 1)*. Berlin, 1964.
17. Kammenhuber, A. *Hippologia Hethitica*. Wiesbaden, 1961.
18. Laroche, E. *Dictionnaire de la langue louvite*. Paris, 1959.
19. Mayrhofer, M. 'Zu den arischen Sprachresten in Vorderasien.' In *Die Sprache*, 5 (1959), 77 ff.
20. Mayrhofer, M. 'Indo-iranisches Sprachgut aus Alalah.' In *Indo-Iranian Journal*, 4 (1960), 136 ff.
21. Mayrhofer, M. 'Der heutige Forschungsstand zu den indo-iranischen Sprachresten in Vorderasien.' In *Z.D.M.G.* 111 (1961), 451 ff.
22. Meriggi, P. *Hieroglyphisch-Hethitisches Glossar*. Wiesbaden, 1962.
23. O'Callaghan, R. T. *Aram Naharaim (An. Or. 26)*. Rome, 1948.
24. Slonek, R. Review of the two contributions of I. M. Dyakonov to: *Problems of Hittite and Hurrology*. In *Bi. Or.* 22 (1965), 40 f.
25. Ten Cate, Ph. Th. J. H. *The Luwian Population Groups of Lycia and Cilicia Aspera during the Hellenistic Period (Documenta et Monumenta Orientis Antiqui, 10)*. Leiden, 1961.
26. Thieme, P. 'The "Aryan" Gods of the Mitanni Treaties.' In *J.A.O.S.* 80 (1960), 301 ff.

IV. SUMERIAN, HURRIAN, URARTIAN, ELAMITE

1. Albright, W. F. Review of E. A. Speiser, *Mesopotamian Origins*. In *J.A.O.S.* 51 (1931), 60 ff.
2. Benedict, W. C. 'Urartians and Hurrians.' In *J.A.O.S.* 80 (1960), 100 ff.
3. Cameron, G. G. *Persepolis Treasury Tablets (O.I.P. 65)*. Chicago, 1948.
4. Clauson, G. *Turkish and Mongolian Studies (Royal Asiatic Society, Prize Publication Fund, 20)*. London, 1963.
5. Clauson, G. 'A postscript to Professor Sinor's "Observations on a new comparative Altaic phonology".' In *Bull. S.O.A.S.* 27 (1964), 154 ff.
6. Delitzsch, F. *Sumerisches Glossar*. Leipzig, 1914.
7. Dyakonov, I. M. 'A Comparative Historical Survey of Urartean and Hurrite.' In *Problems of Hittite and Hurrology* (U.S.S.R. Academy of Sciences). Moscow, 1961.

8. Edzard, D. O. 'Sumerer und Semiten in der frühen Geschichte Mesopotamiens.' In *Genava*, n.s. 8 (1960), 241 ff.
9. Falkenstein, A. *Grammatik der Sprache Gudeas von Lagas*, I, II (*An. Or.* 28-9). Rome, 1949-50.
10. Falkenstein, A. 'Kontakte zwischen Sumerern und Akkadern auf sprachlichem Gebiet.' In *Genava*, n.s. 8 (1960), 301 ff.
11. Friedrich, J. *Einführung ins Urartäische* (M.V.A.G. 37, 3). Leipzig, 1933.
12. Gelb, I. J. *Hurrians and Subarians*. Chicago, 1944.
13. Gelb, I. J., Purves, P. M. and MacRae, A. A. *Nuzi Personal Names* (O.I.P. 57). Chicago, 1943.
14. Gelb, I. J. 'Sumerians and Akkadians in their ethno-linguistic relationship.' In *Genava*, n.s. 8 (1960), 258 ff.
15. Hinz, W. 'Zur Entzifferung der elamischen Strichschrift.' In *Iranica antiqua*, 2 (1962), 1 ff.
16. Jacobsen, T. *The Sumerian King List*. Chicago, 1939.
17. Jacobsen, T. 'The Waters of Ur.' In *Iraq*, 22 (1960), 174 ff.
18. Kramer, S. N. *From the Tablets of Sumer*. Colorado, 1956.
19. Kramer, S. N. 'Sumero-Akkadian interconnections: religious ideas.' In *Genava*, n.s. 8 (1960), 272 ff.
20. Kramer, S. N. *The Sumerians*. Chicago, 1963.
21. Labat, R. *La structure de l'Elamite, état présent de la question*. Paris, 1951.
22. Oates, J. 'Ur and Eridu, the Prehistory.' In *Iraq*, 22 (1960), 32 ff.
23. Oppenheim, A. L. 'The Seafaring Merchants of Ur.' In *J.A.O.S.* 74 (1954), 6 ff.
24. Paper, H. H. *The Phonology and Morphology of Royal Achaemenid Elamite*. Ann Arbor, 1955.
25. Parrot, A. and Nougayrol, J. 'Un document de fondation hurrite.' In *R.A.* 42 (1948), 1 ff.
26. Poebel, A. *Grundzüge der sumerischen Grammatik*. Rostock, 1923.
27. Sinor, D. 'Observations on a New Comparative Altaic Phonology.' In *Bull. S.O.A.S.* 26 (1963), 133 ff.
28. Speiser, E. A. *Mesopotamian Origins*. Philadelphia, 1930.
29. Speiser, E. A. *Introduction to Hurrian* (*Ann. A.S.O.R.* 20). New Haven, 1941.

CHAPTER V

I. AUSTRALOPITHECINES AND PITHECANTHROPINES

1. Arambourg, C. 'A recent discovery in human palaeontology, Atlanthropus of Ternifine (Algeria).' In *Amer. J. phys. Anthropol.* 13 (1955), 191 ff.
2. Clark, W. E. Le Gros. 'The cranial evidence for human evolution.' In *Proc. Amer. Phil. Soc.* 103 (1959), 159 ff.
3. Clark, W. E. Le Gros. *The Fossil Evidence for Human Evolution*. Rev. Ed. Chicago, 1964.
4. Weidenreich, F. 'The brain and its role in the phylogenetic transformation of the human skull.' In *Trans. Amer. Phil. Soc.* 31 (1941), 321 ff.

II. 'HOMO SAPIENS'

1. Brace, C. Loring. 'The fate of the "classic" Neanderthals: a consideration of hominid catastrophism.' In *Current Anthropology*, 5 (1964), 3 ff.
2. Briggs, L. C. 'The Stone Age Races of Northwest Africa.' In *Peabody Museum Bull.* 18. Cambridge, Mass., 1955.